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# A GENERAL VIEW OF GERMAN PEDAGOGY FOR THE BENEFIT OF FOREIGNERS. II

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It is only gradually that German pedagogy has won an individual character and significance of its own. In the Middle Ages there was nowhere any question of an education of a national character. It may perhaps be considered as a German peculiarity that in the "humanistic" period there arose learned schools in extraordinary numbers, and even in very unimportant towns; that scholars quite without means of their own thronged from every part to these schools or to their learned teachers; that the study of Latin particularly was persisted in with amazing patience and perseverance; that in this pious devotion to the foreign language that of the mother-country was neglected and despised; that even after the schools had been freed from the patronage and dominion of the church, the cultivation of a religious attitude of mind always formed one of the aims of school education. For after all, these features indicate what has remained more or less characteristic of later times also. Less frequently there also appeared at that time the arrangement of granting a considerable degree of self-government to the students (scholars), of appointing "decurions" and "centurions" with definite functions and rights, though at the same time the rector hovered over the whole in the capacity of "dictator perpetuus." It would perhaps also be allowable to see something specifically German in the fact that many years were devoted to

the study of branches of knowledge which had practically nothing to do with the understanding of the real life of the time and practical aims in life. Yet the higher school education was not essentially different at that time in other civilized countries.

Now while many different proposals for reform of particular points were made here and there (for instance also in England during the sixteenth and seventeenth centuries), there arose in the beginning of the seventeenth century a German who hoped to reverse all the customary methods or education so completely that in place of all the dullness, drudgery, and relative unprofitableness, a pleasurable ease and interest should be brought into the acquisition of learning. Till the end of his life Wolfgang Ratke carried his ideas upon method and his enthusiasm from town to town, from one princely court to another, without ever having been able permanently to convince and to reform the world in this matter. Nevertheless, more silently, a truly pedagogic interest was thereby aroused (the Humanists had an interest only for knowledge and the power of imitation and for the technicalities of imparting knowledge), and this interest had remained active in Germany. The question as to the best form of schools, instruction, and education was never allowed to rest completely, for the reason indeed, that—at least in the case of the Protestants, i. e., of the predominant class in Germany—there was no authority in force such as that supplied by the Catholic church with its institutions, principles, and supporters. Particularly earnest and profound was also the endeavor of Amos Comenius, who had indeed studied at a German university, and who had considerable influence upon Germany, though he was not of our nationality, but only our neighbor in respect of civilization.

Moreover, as early as the seventeenth century quite a deep interest was taken in the organization of education by German princes. Indeed the rulers over small domains were even better able to occupy themselves personally with such peaceful tasks than the great European rulers with their great questions of power. Thus there arose a series of particularly efficient "princely schools" (*Fürstenschulen*), i. e., learned schools with relatively rich equipment (equipped and supported by some reign-

ing prince or other), with as learned teachers as possible, with particularly earnest scholars and with a special character and fame that at once began to form. Some of them have preserved this fame, as well as their distinctive peculiarities even to the present. Such are Schulpforta near Naumburg, and the Joachimsthal *Gymnasium* in Berlin. It must be considered the most important characteristic of these institutions, which entirely cut off their pupils from their families, that in them the mutual education of the scholars was more important than (or at least as important as) that given by means of directors and teachers, and that the individual was left comparatively free to determine the extent of his own industry, though he was taught to feel it was his duty to contribute to the honor of his school. Thus on the whole these German "princely schools" had quite a resemblance to the English "public schools" which mostly date from a still earlier time. But there they arose rather by the help of trade corporations or through the donations of charitable and wealthy individuals, a difference which is of course not accidental but characteristic. In all this time we find no trace in Germany of the fine playgrounds and habits of play of the English schools. The pupils sit before their books, or exchange their knowledge and their ideas, or prepare elaborate speeches, and such like. Moreover, even in England, it was only gradually that school life won its cheerful freedom combined with its rich equipment.

The seventeenth century brought the European nations into violent and manifold hostile collisions, but it also produced much interchange of customs. More especially there was formed under French influence a kind of ideal of the aristocratic man of the world, in opposition to the type of the man of learning and his methods of education so long reverenced. About the same time as Locke was pointing out new ways for the education of a young gentleman in England, and some hundred years after Montaigne had preceded him in France, there were formed in Germany, under the name of "knightly schools" (*Ritterakademien*), educational institutions for the sons of the upper classes, in which these latter were instructed in every possible kind of modern knowledge (including very superficial and worthless

ones) and in the so-called knightly (or, more properly, courtly) arts; in particular they learned modern languages, not exactly in place of the dead ones, but together with Latin. These schools had however on the whole no true vogue, or rather had no vogue at all, and did not become characteristic of German education. But a compromise gradually did take place between their educational aims and those of the humanistic schools which continued to exist. In part the princely schools (*Fürstenschulen*) and other important institutions gave place to the most important of the new subjects in their own curriculum, and in part more modern schools were called forth to stand by the side of the learned, that is, of the classical ones. In complete contrast to these aristocratic, secular institutions must have stood, it would seem, the schools founded by the German Pietists from about 1700 onward, and which were saturated with their spirit. But even these, or indeed precisely these, by struggling against what was traditional and stereotyped in church and school, by aiming after an essentially genuine and truly desirable culture, strove to do justice both to this world and the next; and, surprising, as it may seem, it was in them that the first German *Realschulen* ("modern" schools) had their origin. Accordingly these latter, organized and conducted by a pious, but at the same time practical, clergy, achieved an intimate combination of piety and fittedness for practical life. Ecclesiastical and secular school education did not become estranged and hostile in Germany, nor did they even at a later period, although the question as to the right relation between them has never been quite settled to this day. But in Germany we have never, as in France or Belgium, had the contrast of a definitely clerical attitude of mind and a non-religious or, at best, colorlessly deistical one. On the contrary, we have had a variety of individual views of religion, rarely of a radical or extreme nature, yet, it is true, with no small degree of antagonism. These may find their explanation in the inner and historical conditions of German intellectual life, but cannot be pursued further here.

Educational tendencies have, however, in another respect remained in opposition or at war up to the present. For some

hundred years or more *Realismus* and *Humanismus* ("modern" and "classical" education) have struggled with one another, and the strife has not even yet reached a real peace. As the "new humanism," the latter won new and great vitality from about the middle or end of the eighteenth century and still more in the nineteenth, by the belief that a vivid understanding of the much idealized ancient world must be obtained from the writings of the ancients, and by the expectation that this would produce an incomparably stimulating, elevating, ennobling, effect on the mind and character of the pupils. Thus they strove to attain an end that was far more valuable than that of the old humanists, limited as they were to the knowledge of languages, linguistic imitation, and the traditional content of knowledge. In the reality of school life, it is true, this attitude of enthusiasm toward antiquity did not prevail against all linguistic formalism and against philological pedantry nearly so often as it was glorified in fine phrases. Moreover the New Humanists were in general inclined strongly to despise other elements of culture, and for these reasons the contest was never without an animosity such as is hardly found elsewhere, except in the conflict of religious beliefs.

In opposition to the onesidedness of the humanistic impulse there next arose, in the last decades of the eighteenth century, the philanthropic movement. It had, however, no lasting success, since it was too extreme in its good tendencies while it combined these with very wrong ones. In their educational institutions, the "philanthropine" learning was to be turned into play; instead of one central branch of study, a motley variety of subjects were taken up without any true seriousness for any; they promised to teach the most difficult things in a ridiculously short time by the aid of a visionary method; much more importance was attached to the usefulness in life of the subjects taught than to the cultivation of mental powers; they thought to educate rather by means of a system of external distinctions than through the simple demands of duty. All this was in the highest degree open to objection, and the defeat of the entire system which soon ensued can easily be understood. But on the other

hand the "Philanthropines" in particular cases provided much good stimulation; more especially, in contrast to the dismal tone of the old schools, they lifted cheerfulness of school life and friendliness of treatment into a principle; they made room for physical exercises, and called attention to education as such, in distinction to mere instruction. Their founders seem more deeply inspired with humanism than the humanists, and their best tendencies have met, after all, with the approbation of later educationalists.

The whole of this conflict was followed in the nineteenth century by that between humanism and realism, or, more correctly, between the humanistic educational institutions and the so-called *Realschulen.* The idea in the foundation of the latter had been that they were to serve as a social intermediate layer and for preparation for the commercial professions, while the humanistic institutions were for the preparation for the learned ones. Yet it is a peculiarity of German life that it has not been possible to maintain any such distinction. The schools founded for this purpose, though under various names, have, sooner or later, always enlarged their curriculum, so as to meet the demands of general personal culture in addition to those of practical aims. The German—very much in contrast to the Englishman, for instance—finds it very hard to avow himself a utilitarian, that is, to aim explicitly, or indeed exclusively, at what will serve him as a practical advantage in life, and the German *Realschulen* aim entirely at being institutions for general culture. Even in the cases in which, in our own day, they have been assigned the definite aim of preparation for, let us say, the profession of merchant, the curriculum remains essentially a general one, and what belongs specifically to the profession is only loosely attached toward the close. Very much the same has been the case with the agricultural schools and others. And thus, in the course of a few decades, there have now arisen, under the name of *Realgymnasien* and of *Oberrealschulen,* schools which, although only the former occupy themselves with one of the two ancient languages, lay claim, with their various branches of study, to quite the same number of years and of hours of classes

and preparation as the humanistic *Gymnasien.* Moreover the pupils who have passed through them have also, since the year 1900, been granted admission to the university without essential limitations, at first in Prussia and later in most of the other German states. That in this way the former relation of superiority and subordination has become a parallelism, an equality, is not alone the case in Germany, for the most recent organization of the higher schools in France displays the same thing in another form—the whole development which modern culture has brought with it. Yet a strict separation of different lines of education always seems to be particularly difficult for us. On both sides there is a continual tendency to assimilate the curricula, although the impracticability of universalism, and the questionable value of attempts to produce it are becoming more and more recognized. Much as we have perhaps distinguished ourselves in advance of our neighbors in the idealistic tendency toward universality of culture, much credit as we have at least assumed to ourselves in this respect, the conception of universal culture itself threatens at present to fall very much into disrepute.

That Germany, and especially Prussia, won from the beginning of the nineteenth century a position in the world of pedagogy which was recognized as pre-eminent, is due to the cooperations of two factors: on the one hand to the earnestness of educational thought, and on the other to the energy of public organization; and the two are of course not without connection. As is generally recognized, Rousseau's protest against the existing and customary state of things produced a stronger stimulation in Germany than among the people in whose language he wrote and to whose methods of education he primarily referred. The representatives of the "Philanthropines" drew part of their principles from Rousseau, though, it is true, they were distinctly opposed to him in other respects. But Rousseau also exercised a modifying effect upon almost all later thinkers. And the number of educational thinkers is particularly imposing just in the period following the beginning of the century in question. Of considerable influence was also the fact, that the great new movement of philosophy after Kant roused the desire of bringing

pedagogy, that kind of applied philosophy, into a similar state of definite theoretical cohesion such as was now found, or sought for, in the purely philosophical systems. And thus, besides Kant himself, who also strove at least toward an exact construction of the science of pedagogy, Herbart, Schleiermacher, Beneke, Rosenkranz, Waitz, and many other philosophical thinkers, tried their hands at a system of pedagogy. The incomparably effective stimulus given by the lofty soul of Pestalozzi is classed with this period; and by the side of the disciples of the great masters, for the most part of Pestalozzi on the one side and of Herbart on the other, there arose a number of highly cultured and farsighted theologians, as well as an imposing number of reflective empiricists from the unforgotten Niemeyer and F. Chr. H. Schwarz onward, together with theorists of organization such as Stephani, Pölitz, Graser; and to all these must be added poets and enthusiasts, Herder, and Goethe too, with plentiful educational ideas, E. M. Arndt, Fichte, Jean Paul. The first decade of the century alone saw the rise of an abundance of pedagogic theories, and what was begun on a large scale continued afterward on a small one and with more attention to detail. The literature dealing with pedagogic problems, which could indeed spread itself broadcast everywhere, is at this period in Germany too voluminous to be grasped, just as interest and zeal continue to be applied to this subject in an unsurpassed degree. It cannot be denied that people gradually fell, got lost in details, and were apt to lose sight of precisely the greatest problems as such. And accordingly revolutionary tendencies have not been wanting.

But now let us glance at the practical organization during the same period. Everyone knows that in Prussia, and the other German states as well, education is entirely directed by the government, and this may be considered in contrast, for instance to that of England, as the essential, fundamental difference, since in this matter what is internal is connected with the external. The Prussian kings stepped in some two hundred years ago now, at first with the effect that elementary education for all the children of the nation was aimed at, and gradually this was actually achieved by insuring the use of school facilities on the part of

parents by means of compulsion and civil punishment. To this has been added since the end of the eighteenth century the state control of higher education. Central and local school authorities appointed by the state, instructions for examinations, curricula for the different kinds of higher schools, definite privileges attached to the attendance of them, teachers admitted only on condition of having passed state examinations, regular inspection of the schools by state officials—all these arrangements have followed one another and continue to the present day. The private schools also depend in a certain degree upon state authority. All this has produced reliable results, and in one sense a universal prosperity of education, but not without certain additional factors having assisted the measures of the state authority.

It would not really be correct even to maintain (as people seem nowadays very apt to do, especially abroad) that the rulers inculcated discipline for the sake of schooling and thus securing docility, nay even submissiveness, on the part of their subjects. It is particularly in countries with a republican, or at any rate, almost republican constitution, that people are disposed to take this view, while we for our part certainly do not allow ourselves easily to be convinced of the special disadvantages of monarchy. After all, the first consideration in those governing circles was civilization, to raise the people above the condition of moral barbarism and scientific inefficiency. They wished to make their subjects happier and better, and from the most important part of general instruction, that is to say, religious instruction, they somewhat naïvely expected sure results of this kind, just as, moreover, learning to read was essentially to subserve the reading of the Bible. For the transference of the supreme power from the church to the civil government in the countries of the Reformation did not in the least involve a separation from religion or church in the education of young people. The aim of moral and religious training during that and the subsequent period, continued to be regarded as the highest, and taking precedence over all others, even in all the schools apparently devoted to quite practical ends in life. Even a ruler of such free opinions as Frederick the Great would not have abandoned it, and far as

it withdrew into the background in the epoch of rationalism and again in that of the so-called "Humanität," this was nevertheless rather a mere modification in a philosophical direction. The German ideal of culture as such (which was from the beginning one of a noble inner development, of a rich and harmonious growth) had of course nothing to do with the qualities desirable in subjects; it had not arisen under and been proclaimed by princes. The best men of the nation, the class that stood highest as regards mind and worth, were inspired with it, and by some of these, who to the blessing and honor of our state were appointed to the positions of supreme control, such an ideal of culture was made the goal of public education. Only the name of Wilhelm von Humboldt shall be mentioned here; many others might be added to his.

It was altogether a time of lofty ideals. Men were thinking of the highest development of the individual, but also of his duty of self-sacrifice to the whole, to the community, the nation, the state. And the sense of duty, by which our kings had shown themselves governed for some generations, which was the guarantee of the efficiency and trustworthiness of Prussian officials, but which also the great philosopher of Königsberg (Kant) had placed at the center of his system of practical philosophy, this same sense of duty was now the decisive factor in education. Whether it did not soon become so too exclusively is another question. But it would be quite unfair to affect to see any unworthy principle therein. Devotion to duty, even to harsh duty, is not synonymous with undignified surrender of personal freedom; and unconditional loyalty has nothing to do with an obsequious disposition. It is in reality the old phenomenon of fidelity to the liege lord under modern conditions. And it is in any case no unworthy aim to train young people to a consciousness of their duty, rather than to that of their claims to life and liberty and self-assertion. Hence, then, the definite examination requirements and the whole hard and fast regulation of scholars and of the pupils' duties; hence the very considerable exhortations to diligence, self-control, and perseverance. The Prussian secondary schools were during the greater part of the nineteenth century the most exacting in Germany, and, on the

whole, probably the most difficult anywhere to be found. Moreover almost all civil rights were made dependent upon successful attendance at school—shortened military service, admission to more influential positions in life, and so on.

Something else indeed co-operated with this civil-moral point of view. Science had advanced to much greater strictness in method and self-control, and also to a far more comprehensive field of knowledge, and the teachers in the higher school who had passed through these severe academic studies transferred as much as possible of this strictness of method to the schools, which, in addition to the intellectual gain, involved an increase in mental and pedagogical pressure. The reader may be reminded that thoroughness to the verge of pedantry, seriousness even to gloominess, are in general German qualities, or at any rate such as are often found in Germany. And if the Germans are sometimes described as born schoolmasters, this is certainly connected with these characteristics—although these latter are by no means all that are necessary, and are moreover fortunately not the only ones which are met with in German teachers.

[*To be continued*]

# ARE COLLEGE ENTRANCE REQUIREMENTS EXCESSIVE?[1]

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The subject of this afternoon is assigned by your Executive Committee, not chosen by me. It consists of two question: the first, Are college requirements excessive? the second, What specific changes are desirable? From the fact that the second question is asked, it is safe to assume that I am expected to answer the first in the affirmative. Some time ago before another audience I answered the question, I think, without ambiguity. Now, after two years more of careful thought and study, after extensive correspondence and after much public discussion and private conversation, I have simply to reiterate my former answer, and to affirm unhesitatingly and emphatically that college entrance requirements are excessive in quantity.

What do we mean by excessive? Too great for what? We mean too great for the schools to accomplish properly, with the emphasis on the word "properly." My position is simply that in giving the quantity that is required of us we are sacrificing quality, that we are not sending into college boys and girls as well prepared as we are capable of preparing them, and that if the quantity of requirements were reduced we could and would send to college students better fitted to do college work, and who would, therefore, be more satisfactory to the colleges and to college teachers.

I am not just now concerned with the physical strain upon our students. It exists, more strongly with our girls than with our boys, and it is a factor not to be ignored in the problem, but personally I believe that the physical strain is due more to improper social life and home conditions, and to school organizations and athletics, than to over-study. My contention is that the amount of work we can secure from our boys and girls is spread over too large an area to secure the best results. We need less diffusion and more concentration.

[1] Read before the New England Association of Colleges and Preparatory Schools, Boston, October 11, 1907.

The simple condition that confronts us now is that of a school course of approximately twelve years, followed by a college course of four years. The only question before us is whether the requirements for admission to college are too great to be accomplished properly in the present school course. If they are, the inevitable result must be a sacrifice of quality. That is the whole point of our contention. We are not looking for an easy task. We are seeking the chance to do an honest job. If we are forced to cover too much ground in those twelve years we cannot help scamping our work somewhere.

There has been a steady increase in the quantity of requirements going on for many years. One day last winter I ran over the Harvard catalogues for sixty consecutive years. It was one of the most interesting and edifying afternoons that I have ever spent. There was not a decade in which the requirements were not steadily and materially increased, and what is true of Harvard in this respect is true of nearly every other college in the country. Perhaps a concrete illustration will make the point clearer.

In 1802, barely a hundred years ago, the first mathematical requirement in America was established by Harvard. It consisted of arithmetic to the rule of 3, and apparently included no fractions. In 1816 it was enlarged to cover the whole arithmetic. In 1819 a small amount of algebra was added, and in 1825 this was extended to the end of simple equations. In 1843 for the first time an "introduction to geometry" was required.

At Yale, algebra to quadratics first appears as a requirement in the catalogue of 1845–46. In 1857 the first geometry was required —two books of Euclid. Later, three books of Legendre or Loomis were allowed as an equivalent of the Euclid. In 1885, four books of geometry were called for, and in 1887 this was extended to cover the whole of plane geometry. Since that time the requirement in algebra has been increased by the addition of a number of topics, and geometry has been enlarged by the insertion in standard textbooks of fully 50 per cent. more propositions, as well as by calling for the power to solve "originals" in an examination. Harvard has limited the number of book propositions by means of a syllabus, but so far, I believe, no other colleges have followed her example.

This sketch of the history of mathematical requirements illustrates what has been going on for more than a century. Not only have the requirements in individual subjects been increased, but new

subjects have been added every few years. At Harvard, ancient history was added in 1847, a modern language in 1875, and a science in 1876. At Yale, Greek history was added in 1874, Roman history in 1880, and a modern language in 1885. A careful estimate indicates that in forty years the Yale requirements have practically doubled in quantity, and what is true of Yale is true of most colleges.

Now this increase in the demands made upon the schools, to a point that is, I believe, beyond their capacity to meet properly, can produce only one result, and that is a distinct falling off in the quality of the work done. The weakness of modern American education is its superficiality. Our Rhodes scholars have proved themselves to be alert, bright young men, superior in general information to those with whom they come in competition, but distinctly behind them in exact and thorough scholarship. Business men are complaining today as never before of the difficulty of finding assistants trained to accuracy and exactness. American labor has ceased to lead the world in efficiency. Our colleges no longer give training. With their freedom of election, and their multiplication of "culture courses," they give broad outlooks on life, they bring the student into acquaintance with his complex environment; but they do not *train* him as they might, they do not develop in him that efficiency that counts for so much in life. Our technical schools do train, and in that respect they have taken the place occupied by the colleges years ago. The recognition of that fact by practical men is one of the reasons for the marvelous growth of these institutions of late years.

Now, I am not here to declaim against the degeneracy of modern times. I am not arguing that the old narrow training of the fathers was better than the broad, liberal culture of the sons. I am not trying to turn back the hands of the clock, nor am I undertaking the task of reforming our colleges. I am simply urging the fact that the period of secondary education is pre-eminently the period of training, and that our students who are preparing for college are not getting the training that they might receive, because, to meet the demands of the colleges, they are compelled to study too many subjects at once and to cover too much ground in the time at their command.

What I have been trying to do thus far in this paper has been to make clear the situation and my position, rather than to prove the contention. I have previously argued the question in detail, and it

has been discussed so fully in the last two years that we have probably all formed an opinion on the subject. At least, the facts on which to base an opinion are clearly before us. What is needed now is not so much argument as a clear statement of what may be done to remedy the existing situation.

We find, then, three specific grounds of complaint. The first is the constant tendency to increase the requirements. What has been going on for years still continues. Each committee of ten or fifteen strives to exalt its own subject, and adds something to the previous demands. Such a leader as President Eliot urges the unloading of more and more work upon the schools. In the second place, some of the leading colleges, Harvard, Yale, Princeton, Bryn Mawr, and a few others, demand too many subjects, and call for too much ground to be covered thoroughly in the ordinary school course. Harvard and Bryn Mawr are the worst offenders in this respect, for their requirements are greater in quantity than those of the other colleges. In the third place, the standard requirements—those of the College Board and of most colleges—in a number of subjects are too great in extent.

What can be done to meet these specific complaints, and to remedy existing conditions? I believe that the thing to do is to face the situation squarely, to grapple with it manfully, and to act, calmly and deliberately, but fearlessly. In the first place, let us rouse and express a public sentiment that will effectually check this constant tendency to increase requirements. Many of the additions to the requirements of individual colleges have been made simply because of a failure to realize the actual conditions under which we are working. The colleges are more anxious to secure well-prepared students than the schools are to supply them. Let us make it clear to them that the way to raise standards is not to call for greater quantity, but to insist on better quality. The Conference on Uniform Entrance Requirements in English meets in February. You are asked at this meeting to appoint delegates to a conference on the requirement in physics. The Modern Language Association will probably soon make some slight changes in the standard requirements in French and German, and from time to time the requirements in other subjects will no doubt be modified. Those who discharge these important tasks are usually able men and women honestly seeking what is best, but they are also usually specialists impressed with the importance of their own subject. Let us make clear to

them the situation, and urge upon them the truth that the all-round training and development of the boy and the girl is the matter of supreme moment, and that to demand more in any subject than can properly be performed is not an advance, but is a distinct lowering of the standard. If we accomplish nothing more than to call a halt for the next few years in this constant advance, and thus give the schools a chance to catch up and to learn how to do well the work now allotted to them, we shall have won a notable victory. Our work is going to improve in the future as it has in the past, but we urge that what we saved by improved methods and better teaching shall go to increasing our own efficiency, and not to relieving the colleges of more of their Freshman work.

The second specific recommendation that I make is radical. I propose that those colleges which require more than the normal amount—Harvard, Yale, Princeton, Bryn Mawr, and perhaps a few others—deliberately reduce the number of subjects called for. Such action would require courage, for it would look like a step backward, but it need be in no sense a lowering of standard. The protection against that is in the hands of the colleges, for those mentioned admit students only on examination, and can fix their own standards. They can make their examinations as hard as they choose, or, whatever criticisms have been made of the College Entrance Examination Board, no one, so far as I know, has yet suggested that its papers were too easy, or its markings too lenient. If examinations are not an adequate test by themselves, they can easily be supplemented, as I believe they should be, by certificates showing the amount and quality of the work done in school. By such a double test it would be possible to secure protection against inadequately prepared students. My point is simply that six subjects well mastered are better preparation for college work than seven or eight superficially covered. Twenty-two points of work well done ought to suit Harvard better than twenty-six less well done.

The result can be achieved in several ways. At a college like Harvard, where the point system prevails, a readjustment of values can be made that will be of decided benefit. For instance, the proposal has been made that the values assigned to the modern languages should be increased. It is difficult to see why elementary German should count only two points, while elementary Greek

counts four. At a college like Yale a system of alternatives for admission would afford some relief.

The second method would be for Harvard deliberately to reduce the total number of points required, and for Yale to cut off one entire subject, or parts of several subjects. This seems more drastic, and yet it is not without precedent. A few years ago Yale removed Ovid from its Latin requirement, a distinct reduction in quantity, and within a year the Cornell Engineering School similarly eliminated spherical trigonometry, a subject that never had any business in a school course. These are good examples to follow, and for similar action I venture to suggest Sallust, which Princeton alone, I believe, of all the colleges in the country requires, and analytical geometry, which Wesleyan seems to think within the scope of subfreshmen.

Still another method of revising the requirements of those colleges which demand most, is by concerted action on their part. As a preliminary step to this, an authoritative estimate of the quantity of their requirements would be of great assistance, and would of itself throw light on the problem. Up to the present time there has been no generally recognized scale of measurement, and it has been largely a matter of individual opinion as to just how the requirements of one college compared with those of another. Recently, however, the Carnegie Foundation has attempted the task of reducing college requirements to a common denominator, and of measuring them in common terms. By co-operation of other organizations with the Carnegie Foundation it should be possible to measure college requirements in terms of school work, accurately and authoritatively. Such a measurement would be in itself illuminating, and would be of great assistance. With or without it, however, if either those colleges whose requirements are above a certain quantity, or those colleges with more than a certain number of students, or all of the colleges in a certain region, say New England, were to come together for conference, and were to discuss this question fully and candidly in all its bearings, it ought to be possible for them to reach some solid ground on which to base united action that would be less liable to misunderstanding and that would involve less embarrassment than individual action.

These suggested plans apply to particular institutions, and call for action on the part of individual colleges. There is a third method which can, perhaps, be applied more easily, and which will be of

great advantage because it applies to practically all colleges. That is to modify the standard requirements in different subjects. The tendency at the present time is to prepare these by united action, and they are usually now formulated by joint conferences of college and school representatives. As these committees meet from time to time, it is possible through them to bring about modifications that commend themselves to the school and college world.

I shall venture to suggest certain definite changes that would relieve the existing situation, and that I believe are desirable. They are not radical; they simply remove certain excrescences. I put them forward as the expression of individual opinion, and to afford a definite basis for discussion. If they win approval, each one of them is possible of attainment, and if they are attained I believe that they will mark a distinct advance in secondary education.

My first recommendation is that elementary algebra should end with quadratics, and that the topics beyond that should be relegated to freshman work or to the domain of advanced algebra. Some colleges have never added these topics to their requirement, but the recommendation of the American Mathematical Association includes the binomial theorem, and arithmetical and geometrical progressions, and this recommendation is adopted by the College Board, and by a number of individual institutions. Princeton adds to these permutations and combinations, and logarithms, and some other colleges make similar individual demands. These additions are of comparatively late date, and the increase in the algebra requirement in the last ten or fifteen years has been greater even than appears in college catalogues, for modern textbooks and recent examinations have distinctly increased the work to be done, even inside the old limits. I am told by college instructors that entering students are weak in two respects—accuracy of calculation, and thorough understanding of underlying principles. I accept that criticism as just, because it corresponds with my own observation. Accuracy of calculation can be attained only by extensive practice and drill. Understanding by immature minds demands time, and it is impossible to secure it when a class is forced to move at a hurried pace. A knowledge of some of these added topics is of little or no value for advanced work—if it is, it can easily be secured in college—but accuracy and thorough understanding are of vital importance. These we are to a considerable degree sacrificing, because we are trying to cover too much ground in a given time.

My second recommendation is that in geometry a syllabus of the essential propositions shall be adopted, that "book work" shall be limited to these, and that original work shall be restricted to propositions and problems based upon them. That is precisely what Harvard is doing, and what should be done generally. It was only twenty years ago that the geometry requirement at Yale was extended to cover the whole of plane geometry. At that time Davies' Legendre was probably the standard textbook. It contained 109 propositions. Three of the textbooks most widely used at the present time contain 167, 168, and 174 respectively—an increase of slightly more than 50 per cent. Nearly all of these additional propositions are of the nature of what might be called geometrical curiosities, interesting exercises but of no real value in the development of the subject. The Harvard syllabus contains less than 100 propositions, and yet this is supposed to include all that is essential. A mathematical colleague of mine figured up last summer that in the textbook in plane and solid geometry used in our school there were 775 different ideas to be appropriated by the students. By an idea he meant an axiom, a postulate, a theorem, or a corollary, that a pupil might be called on to use in a demonstration. Eight hundred ideas in one subject is a large number to grasp and to hold in mind ready for use. He urged that if the number were limited to five or six hundred, and the pupils gave the time and energy now spent in covering the additional two or three hundred to applying the smaller number in original work, they would develop more power and be better fitted for advanced work than they are at present. I think that the point is well taken. What I urge, then, in regard to geometry is the following of Harvard's example. The way is open, for one of our mathematical associations has prepared a similar syllabus.

My third recommendation is a reduction of the mathematical work demanded in physics. Physics used to be a delightful subject, and a joy to the students, but a large part of the joy seems to have fled. I admit that physics demands mathematics, and that a thorough knowledge of the subject is impossible without some mathematical work. I admit that the solving of problems in physics is one of the best applications of mathematics that we have, and that it is capital training. My point is that it has been carried too far, and that we are having too much of a good thing. The situation is something like that in geometry. It is not the use of a limited number of well-mastered ideas in new applications. There are so many different

kinds of problems, so many different facts and formulas to be carried in mind ready for use, that the mental energy is not employed in the best way and the mind itself has a tendency to become confused. Modern physics seems to be planned with a view to the development of physicists rather than to meeting the educational needs of the ordinary boy or girl. Just what reduction should be made I do not venture to say. That is a matter for those who know more of the subject, but that some reduction should be made is, in my judgment, unquestioned.

My fourth recommendation is that Latin and Greek composition shall be either eliminated or decidedly reduced. Composition is of unquestioned value in the mastery of a language, and I do not see how anyone can teach elementary Latin or Greek without its constant use, but when it comes to training, or trying to train, our pupils to write Latin like Cicero, or Greek in the style of Xenophon, my observation is that the results do not pay for the labor. I am aware that to many of you this view will appear heretical, and I do not propose at this time to argue it. I merely assert, as a thesis for discussion, that Latin and Greek composition in college-entrance requirements should be limited to exercises designed to illustrate commonly used grammatical principles.

My fifth recommendation is that in the English requirement there shall be a reduction in the emphasis placed on knowledge of specific books. Here again Harvard comes nearer than some others to the correct idea, in laying stress on the ability to write, and subordinating detailed knowledge of the contents of the books. The uniform entrance requirements in English have done a great deal to systematize English teaching in our schools, and to introduce the study of literature in many places where it did not formerly exist. I believe that the English of students entering college is better than it used to be, and is better largely because of this requirement. But it is equally true that it has distinctly increased the load laid upon our students. This requirement has now been tested long enough in actual practice for us to judge of the results with some accuracy, and, unless I am greatly mistaken, the opinion of the teachers of the country is turning in the direction that I have indicated. The last report of the English Conference, with the new requirement for the years 1909, 1910, and 1911 was a distinct step in that direction, and whatever future changes are made in the requirement, I believe, should be toward the same point of the compass.

My sixth suggestion, and the last that I shall make today, is that the field in ancient history shall be reduced to reasonable limits. Originally, I presume, the primary purpose of the requirement in ancient history was to illuminate and vivify classical study, and it was limited to what we know as the classical period, covering the history of Greece and Rome down, say, to the death of Augustus. A few years ago the Committee of Seven of the American Historical Association, desiring to provide for the study of the history of the world in four consecutive years, extended the period to include on the one hand the history of the Eastern nations, and on the other the history of Europe down through the time of Charlemagne. It is something of a shock to the old-fashioned mind to find that the study of ancient history must include the rise of Mohammedanism, the discussions on the Nicene Creed, and the career of Charles the Great. The plight of the teacher who tries to carry a class over this field in the time that can ordinarily be allotted to the study can easily be imagined. It is a clear case of sacrificing the student to the claims of historical theory. In a recent discussion on this subject, one member of the Committee of Seven said that the enlarged field could be covered in the same time as the old, simply by the omission of unimportant details. This, however, means generalization from a small basis of facts, and this, especially with the adolescent mind, means superficiality. Another member of the committee, in the course of the same discussion, said that this requirement was not put forth as something hard and fast by which we were to be bound, but as a suggestion, an ideal toward which we are to strive. That is the trouble with several of our college requirements. They are put out by specialists as ideals, and the poor pupils and we teachers strain our nerves to attain these ideals, with the usual result that comes from undertaking tasks too great for one's powers—incomplete attainment and superficiality. There are good reasons in favor of requiring a knowledge of ancient history of every student who enters college, but the results will be better, both in the development of the pupil, and in the laying of a foundation for future study, if the ground to be covered is confined within moderate limits.

I have this afternoon purposely devoted myself to assertion rather than to demonstration. My purpose has not been to prove, but to make clear my position, and to set forth certain definite proposals for consideration, for discussion, and for future action. The position is that the proposed reduction of quantity is primarily for the purpose

of improving quality. The proposals are three in number. The first is to check the existing tendency to increase requirements, by the creation and expression of a strong public sentiment. The second is for the half-dozen colleges that require more than the others deliberately to retrace their steps, and to cut down the quantity, an action that must come from the institutions themselves. The third is to reduce slightly the quantity required in each of several subjects, a step that can be accomplished mainly through the representative committees that meet from time to time. An extensive correspondence following the publication of a paper on this subject two years ago convinces me that the position which I here maintain is very widely held. The pressure is unevenly felt. It is felt least heavily, of course, in those schools which prepare chiefly for one college, or mainly for those colleges where the requirements are lowest, or where students are admitted on certificate. It is most heavily felt in those schools which prepare for a number of different colleges, and those in which preparation for college is not the main work. But if unevenly felt, it is widely felt. And the sentiment is not confined to the schools. I have in my possession a most interesting series of letters from college officers and professors squarely indorsing this position because of the unsatisfactory results as they see them. There is a wide-spread feeling that college entrance requirements are too great in quantity, and I believe that the time has come when this sentiment can be crystalized into action.

The discussion of this paper is reported in part as follows:

PROFESSOR J. G. HART, of Harvard University: Mr. Farrand thinks that college requirements are excessive in quantity. Our experience at Harvard does not bear out that contention. Take, for example, the entering class this year. Out of some 600 men admitted, more than 200, more than one-third, have been admitted to college on records which include a larger body of work than the college requires, in some cases a much larger body of work, and nearly one-half of those who tried the Harvard examinations this year offered themselves for examination on more subjects than the college requires. I know there are reasons for discounting that a good deal. There is a great deal of gambling with the examinations. Boys take them as a kind of insurance against conditions. They take them with the hope that they will thereby be enabled to shorten their period of residence in college, and they take them often with very insufficient preparation. But, making allowances for everything, it seems to me that if so large a propor-

tion of boys coming to a college which asks for more than any other college, does more than the required amount of work, the college is not asking more than a boy can do. These boys that I mention are not confined to any one part of the country, or to any one kind of school; they represent some seventy-nine different schools that are pretty well scattered over the country. The majority of those schools are public high schools, three of them I believe in Mr. Farrand's own state. It seems to me, therefore, that our experience would not warrant us in reducing the amount of work which a boy is expected to do.

On one of Mr. Farrand's other points I should differ with him. He contends that if the colleges asked for less they would get work of better quality. It seems to me that that is rather unlikely. If the best boys, the most industrious, can do more than the college asks for, are the average boys to change their natures and do work of better quality by being required to do less? It seems to me that is rather contrary to experience. In every discussion of this subject that I have ever heard it has been admitted by teachers that one of the chief difficulties that they have to contend with in covering the ground that the college requires is the pressure of outside interests. Are those interests going to be less strong, less attractive? It seems to me more likely that if you require the boys to do less in school they will simply use their extra time in attending to those outside interests. I cannot believe that simply by asking for less we shall really get more.

And yet I think that Mr. Farrand is on the right track when he contends for something that will improve the quality of work. I don't feel much hope, however, that the present condition of affairs will be improved by changing our ratings. I am quite ready to admit that the rating for Greek is as indefensible as anything in the protective tariff, and for the same reasons (laughter); but I have not much hope that any tinkering with the ratings, any changes of that kind in our extremely artificial system of measuring a boy's ability for college, is going to lead us into a better condition of affairs. It seems to me quite as likely to lead us into evils we know not of now as to take us out of those that we suffer from. The trouble, it seems to me, is not that we have unequal or unjust ratings, but that we have any ratings at all. With our characteristically American and misplaced faith in machinery, we have devised a very elaborate system of measuring a boy's ability for taking up college work. We

say that a boy must have so much algebra, and so much German, and so much French, and so much history, and so much physics, and so on, and if he produces evidence that he has the prescribed quantities of these subjects we add them together and say that the result is a boy ready to enter college. That may have been a good method in a time when a boy continued in college the subjects that he studied in the secondary school, and it is all right now, perhaps, so far as those departments are concerned where work is preceded by entrance examinations; but it seems to me that we are in an entirely different situation and need an entirely different kind of test for admission to college. If this quantitative way—if I may use that term—of measuring a boy's ability to enter college is right, it ought to correspond to the facts. According to my experience it does not correspond to the facts. Nothing is more common than for a boy, according to our way of measuring his ability when entering college, to stand the test successfully and then show that he is not fit for college at all, and nothing is more common than for a boy to take the tests that determine whether he has these quantities of knowledge, make a miserable showing, and then, after getting into college in some back-handed way, show that he was more fit for admission than a boy who stood the test more successfully. Every year boys come to Harvard from some out-of-the-way place, make a miserable mess of the entrance examinations, and yet when the Committee on Admission gets their school records, and information about them from their teachers, they find that it is reasonable to assume that those boys are ready to do college work and should be given a chance. In the majority of cases those boys prove that the committee is right. It seems to me, therefore, that the trouble is that we are applying the wrong kind of test for admission to college, that we should not use a quantitative method of determining whether a boy should enter college or not, but that we should use a qualitative method. Our experience shows that it does not matter very much what a boy knows, but it does matter a great deal what a boy is. It does not matter whether he has this subject or that subject, but it does matter a great deal whether he has the maturity of mind and general ability to take hold of college work and do it.

What we want is a system which will test a boy's ability and find out whether he really is prepared to do college work. I am not prepared to make any definite suggestions as to what such a system should be. The Harvard Committee on Admission has been

studying this matter for two years, and it is not at all clear as to how to go about it; but it has tried wherever possible to shift the influence of the college from emphasis upon quantity to emphasis upon quality. I think that the way out of such difficulties as Mr. Farrand has described is not through tinkering with our present system, but by changing it pretty radically, by devising some method by which we shall determine whether a boy is the kind of boy that can do college work, irrespective of how much knowledge he has in different subjects, and by using our tests in regard to quantity of knowledge in different subjects to determine what he should do in college.

I perhaps should not have tried to lead the discussion off the subject appointed for this meeting, but I have no interest whatever in matters of quantity; my only interest is in finding some way to manage this difficult subject of college-entrance requirements, so that we shall be able to determine whether or not a boy is fit to enter upon college work, whether he knows so much algebra, or so much Latin, or not.

Dr. Tetlow: Mr. Chairman, I was a good deal surprised, in listening to Professor Hart, because he appeared to me not to be disposed to treat this subject seriously. For my part I was strongly impressed by what Mr. Farrand said. He gave us the history of the increased requirements, showed in detail how unsound they were, explained how quantity at the expense of quality resulted in superficiality, and made definite proposals for reform. Such presentation, it seems to me, deserves to be treated seriously. As I listened to Professor Hart, and heard him say that a great many students who came to college passed a wretched examination, that the college authorities afterward inquired of their teachers what their characteristics were, and what they were capable of doing, and gave them a chance to do college work on the strength of what their teachers said, I supposed the very next thing he would say would be that the proper method of admitting students to college was by certificate (applause). That was the goal toward which he seemed to be drifting; but he did stop short of that. I did not detect anywhere a disposition to receive otherwise than in a spirit of banter and pleasantry what had been presented so thoughtfully, and with such a basis of history, argument, and experience, I could not help feeling, while Mr. Farrand was speaking, that he was speaking out of the wealth of his experience. I have had two score

years of the same sort of experience, and I am ready to indorse substantially everything that he said. I hope that the specific recommendations he has made will be voted upon, and that we shall in this way revive in this Association the practice which prevailed in it at the very beginning, the practice, I mean, of doing something and not simply debating.

PROFESSOR HART: Mr. President: Mr. Tetlow has so completely misunderstood me that I hesitate to make another attempt to explain matters, for fear that I should simply obscure my meaning more. My sympathy is entirely with the schools. I think they are working under very hard conditions. Mr. Farrand has not in the least exaggerated the hard conditions under which they work, and college entrance requirements may be very largely responsible for those conditions; but I don't think the remedy is in the direction Mr. Farrand pointed out. That was all that I meant to say. It seems to me that we shall not improve things by reducing the amount of work that must be done, but that we must look for an improvement by trying to devise a system which will take emphasis off of mere amount of work and put it upon the quality of work.

DR. TETLOW: I labor under a personal infirmity. When I feel strongly I am likely to express myself impulsively, and I hope, if I erred in that direction, that Professor Hart will pardon me. But I feel that what was presented by Mr. Farrand is worthy of very serious consideration. Take, for example, a single illustration, the matter of ancient history. The requirement in ancient history used to extend in Greek history to the death of Alexander and in Roman history to the death of Commodus. With that limitation as to scope it was possible to teach history as history ought to be taught. But the moment that the limit was extended to 800 A. D., to the time of Charlemagne, then it became utterly impossible, within reasonable limits as to time, to teach history as it should be taught. What was my way of getting around the new requirement? It was to carry my class to a reasonable point, the point that had formerly been accepted as the limit, and then to say to the few individuals who were going to the colleges that had adopted the recommendation of the Committee of Seven, "If you will take such a book, naming a book that treated the period worthily, and read it three times through thoughtfully, taking notes as you read, and then come to me with a written abstract of what you have read, I will certificate you in ancient history." That was the only way by which I could retain

a sound method of teaching history. The experts in history had made it impossible for me to do anything else.

I don't suppose that we are ready to take a vote on the six recommendations that Mr. Farrand has made. Doubtless there would be a disagreement in matters of detail. But I think I can put a general motion that will call out the sympathy of those who agree with Mr. Farrand substantially in what he has said, and I cannot see that there would be any objection to our taking a vote on some general statement such as I am about to propose. I move that it is the sense of this association that the requirements for admission to college would be improved by the adoption of modifications in the direction of the six recommendations made by Mr. Farrand.

THE PRESIDENT: You have heard the motion. President Seelye of Smith College.

PRESIDENT SEELYE, of Smith College: I second heartily the motion which has been made by Mr. Tetlow, and in seconding it, I wish to express my approval of the paper which was read by Mr. Farrand. As a member of two college faculties, I have seen during the past forty years the introduction of many additions to the requirements for admission. I should differ somewhat from President Fellows in tracing the genesis of these additions. In my observations, almost without exception they have come from the demands made by the different collegiate departments for representation in preparatory schools.

Fifty years ago there was great need of an increase in the requirements for admission in order to raise the standard of scholarship. We are indebted to Harvard University for taking the lead in that respect. We are no longer, however, in that position. I think, as has been stated here this afternoon, we have gone to the other extreme. It is a fact which can be proved even more fully than it has been in the paper presented, that the requirements for entrance to college have doubled in fifty years. The evil effects of the change are not felt simply in the poorer quality of the scholarship which has been offered to the colleges; the evil effects have been felt in postponing the entrance of men into active life. There is much to be said on the physical side of the question, which has been neglected, and which we have not time to touch, but it is evident that many economic and social conditions have been seriously

affected by these increased requirements for admission to our colleges.

As a college man, I am impressed by this testimony which comes from nearly all the best teachers of our preparatory schools, that the college requirements are now too great for them to meet properly. Harvard ought to acknowledge that testimony, I think, more fully than it has thus far in the presentation which has been made. We are indebted to Professor Hart for his admirable criticisms last year of the examination methods in Harvard University, and for the beneficial changes which have been effected by putting the examinations upon a more sensible basis. If Professor Hart with his acumen would give the same critical study to the quantity of work which is now demanded for admission to college, I am confident we should have a different result from that which he has given in his address.

Professor Hart emphasizes just as strongly as Mr. Farrand the need of a better quality, but I think he has made a mistake in separating quality so entirely from quantity. I do not see, Ladies and Gentlemen, how we can improve the quality without regarding very closely the quantity of the work demanded. I think it is of the utmost importance that we consider the question of quantity first, and see whether this testimony which has been given to us from teachers whom we honor and trust, is not testimony that the managers of our colleges ought to heed and to accept.

I like what Mr. Russell said in regard to the languages. It seems to me that in addition to Mr. Farrand's suggestions we might also well adopt the one which Mr. Russell has made: that only two languages, aside from English, should be required of a student for admission to a college course. Two foreign languages are generally enough for a girl or a boy to study before sixteen; and, in my judgment, the colleges have erred in adding a third language, as many of them have done, to their requirements.

I was impressed by the statement of some college scientific professors a few days ago in reference to the elementaries in physics and in chemistry. They said that so far as teaching science was concerned they felt the colleges had made a mistake in demanding these elementaries; and that better scientific work could be done without them.

I therefore favor this motion which has been made, and hope it will prevail.

MR. GEORGE L. FOX, of The University School, New Haven, Conn.: Mr. Chairman: I want to take a good deal of time. I am on the other side, very strongly on the other side. I think that I will demolish the paper of today very readily. I would not like to take that time until others have had a chance to speak, but I must insist on time. I have been a teacher of a secondary school for thirty years, preparing for Yale for thirty years, and I know what Dr. Farrand has said time and again, and he knows what I think of it. I am going to state here what I have stated to him, and then to my friend Tetlow in my amazement at finding him marching with the reactionaries, I must say, *Et tu Brute.*

I ought to begin with a few brief personal remarks, like another speaker. If I say hard things today, just remember that I am the mildest mannered man that ever scuttled ship or cut a throat. The two men who have championed this lowering of the standard of American scholars are men whom I like personally. I have always looked upon Mr. Tetlow as the grand old man of the secondary-school system of New England, and he deserves the appellation, but now I am amazed to hear him talk. He alluded to two things that awakened a response in my heart. One was that when he felt strongly he spoke very strongly. That is my case exactly—my case exactly—and I shall strike right from the shoulder. The second is that he spoke of the wealth of experience of Mr. Farrand. I speak from the wealth of experience of thirty years, and in order to make my argument a little more impressive I will have to go into some personal details about my own life, which are not very pleasant to me to detail, but they demonstrate the fact, and I am going to contrast it with his life.

Mr. Farrand comes from one of the best equipped schools in the United States. He has a large patronage, and he has a fine set of boys. He has well-paid teachers. My experience as a teacher is this: For three years, and while I was in college, I was a private tutor in New Haven. I then established the classical course for the teaching of Greek in the New Haven High School, and stayed there for eight years. Then I went to the Hopkins Grammar School of New Haven, and was there from 1885 to 1901, sixteen years. I undertake to say there is not a man in this room who taught, who prepared boys for college, under as hard conditions as I did in that school for sixteen years. The number of pupils varied from 60 to 110. It had almost no endowment. I had but three assistants, and

sometimes two and a half or three and a half. We had to fit boys for Yale College and the Sheffield Scientific School, and oftentimes the senior class was made up of 75 per cent. new men. He has not had any such experience as that.

I have fitted boys for Yale for thirty years, and I lay down the general principle that in the main the requirements at Yale have been fair, and the examination papers have been fair. I don't mean to say but what every year there is an exception to that, but in the main they have been fair, and I wish to lay that down as the fundamental proposition.

The second proposition is with regard to what Mr. Farrand said. I wish to challenge almost everything that he said with regard to the difficulty of examinations. Of course he could not bring proof, and he only gives his own experience. I bring mine.

I forgot to tell you the third experience of my life as a teacher. In 1901 I started a private school of my own, The University School, of which I am the sole teacher, except with a few assistants at the end of the year, so I have to teach every subject for admission to Yale. I teach every subject mentioned here today, except physics. The boys that I have are generally what are called in popular parlance "lame ducks." It is not true; I have some excellent boys, but in the main they are boys who have not seemed to get on in their studies, and it is my business as a teacher to get hold of them and lift them up. In a large summer school I had this summer one of the boys showed me a postal card he had received, and it was directed to him at: "Fox's School for the Brainless." That was a very unjust libel upon my boys, but in the main I have boys who have not got on in other schools. So I think I might say that my conditions for teaching are far more difficult than those of my friend Farrand, and cover a longer period of time. He has had one difficulty which I have not had; he prepares for different institutions, as I understand. My sole aim has been Yale from the start. But I frankly say, from my knowledge of other colleges, etc., that if a boy will pass that stone wall of the college examination at Yale as it is now constituted or has been constituted for several years, he need not be afraid of going anywhere else. I know my boys this year who have been rejected by that examination committee have gone right off to other colleges, and they say to me, "We can get in *there* and get in *there*." So I say as to wealth of experience I challenge the right to speak as much as Mr. Farrand.

Now, then, all his historical part was wide of the mark. Of course we have improved in a great many things, and it is a good thing for us that we have improved. That does not make any difference.

He speaks of the increase of the requirements. So have they increased in the college course. They do not greatly increase. It is no argument, therefore, that we should go back because we have gone forward, not a bit. The true test is this: We have splendid boys and girls. We say they are the equal of any in the land. Well, then, what do they accomplish compared with the boys and girls of our three great rival nations, England, France, Germany? If I may be permitted a slang phrase in the midst of this audience of purists, they are not "in it" with the secondary-school boys and girls of England, and France, and Germany.

I know that. In the year 1890 I first began to visit the great English public schools, and every year I have been whenever I have been across the ocean, always at Rugby, and it is my pleasure at Rugby that sometimes my host, who is one of the masters, gets a few of his friends together, and I tell them what splendid work they do, and how much better they do it than American teachers do. The average English school boy gets through his school at nineteen, and he has covered practically all the requirements for admission to college in this country and most of the two years of college life, without any whining, and without any whining on the part of the teachers. I may say it, I suppose, in the way of scolding, but I don't like the spirit of my colleagues in this country as compared with that of the English secondary-school teachers. They are not always whining to the universities about this and that. They say to the universities, "What is the job you have for us? We will do it," and that is the way for us to act.

I say that the requirements for admission to college in this country are by no means excessive, and if there is any member of any college faculty within the hearing of my voice, this is my parting injunction to him, repeated and repeated and repeated, "Don't give way an inch, except in a few unimportant particulars." We have not got far enough. We are steadily gaining. The average American school boy, as I say in my own school circular, is a dawdler as compared with the secondary-school boys of other countries.

Now let me take up in particular some of his requirements and

some of his recommendations. Moreover, in the first place I am going to take up the part in which I agree with him, strange to say. Isn't it strange, I heartily support one of his motions, and supported it some time before he did? I happened to be a member of the Committee of Seven that has been referred to, well, rather uncomplimentarily, and the fight that he is making here today and the fight that Mr. Tetlow made I made in that committee. The only regret of my life is that I did not have a minority report. I said "Mediaeval history is of no value, comparatively, for the secondary schools, and extremely difficult to teach. It is a tangle of things, and the average boy or girl cannot penetrate it. Stop with Commodus." But they wanted to have a long elaborate thing from the Flood way down to the present time, and they got it. I yielded to persuasion and did not come out with a minority report upon that. But that change ought to go right ahead at once. It makes no difference to me. Yale has never followed that requirement. Yale does not go quite far enough. She doesn't go back to the Persians and the Egyptians, and she doesn't go far enough in Roman history. She stops with the reign of Augustus. I am very much interested in the Flavian emperors, and I wish that she would take those in and stop there. Mr. Farrand is perfectly right, and Mr. Tetlow is perfectly right, with regard to that recommendation in history; but that does not concern a large number of schools.

And now, having given the point where I agree with him, I am going to say where I disagree. In the first place, his talk about algebra arouses in my inner consciousness an overpowering sense of fatigue. Why, to stop with quadratics in algebra is ridiculous. I wish he would look at some of those English papers in algebra and books on algebra. The requirement in algebra to my mind is now too little. It takes in arithmetical progression and the binomial theorem, with only positive and integral exponents. As I have told him more than once, the colleges have gone back. They used to have fractional exponents and permutations and combinations. That is a material difference. "Why do you not go back to that? Why do you not stand up for that?" "Well, we had so much pressure from the schools we thought we would pull it out."

The Sheffield Scientific School has done great work recently in the line of algebra, and it is a line which is especially unpleasant to Mr. Farrand, with his allusion to "graphs." I am going to speak upon that a little more at length, to show the different spirit of

English secondary teachers and American teachers. Four or five years ago the Scientific School put out an additional requirement, called Algebra B. The additional requirement A now in the Scientific School covers practically what Yale College requires in A and B. It goes through to progressions. They have put on permutations and combinations, the binomial theorem, with fractional exponents, the graph, and the discussion of the theory of equations. At first there was a tremendous howl. They simply said, "We need this to do better work in our freshman year. We therefore must insist upon it." Now I think the schools have accommodated themselves to that pitch, and so far the mathematical education of men for technical schools has been benefited by that action of the Scientific School, and I praise them for it. The question of graphs came out in England only about ten years ago. It was earnestly recommended. Immediately everybody took it up. They have published textbooks—I suppose I have at home six or eight admirable ones—just on that subject, showing the practical application of the subject. The treatment of the subject in no modern algebra published in the United States compares with those little books published on that subject in England. So I ask every college president and professor here not to lessen the requirements in algebra in the slightest.

I say also this: that the present two years open for teaching the amount of algebra required is an abominable waste of time—is an abominable waste of time. Anybody, in my opinion, ought to cover that ground easily in a year and a half, and I expect to cover it this year with three boys, not very bright boys, in a year. If I were a dictator here in America I would allow only one year and a half in algebra, and devote the remaining six months to teaching civil government, making it a required study for admission to college.

The second thing that he spoke of was with regard to Greek and Latin prose composition. I am just as firmly opposed to that proposition as I am to the other. Greek and Latin prose composition is one of the best means possible for teaching the boy to think, for clearing the cobwebs out of his mind, for getting down through this crust of superficiality to some solid rock that is difficult to find in some of their minds, and we want the subject kept just where it is. The great trouble is superficiality, and no boy can take Greek and Latin prose composition successfully, in the same way with modern languages, unless he has got a pretty good knowledge of the lan-

guage. I always put it right on to a boy, and I am very much pleased to have boys who after a while say, "Well, this is fun." I say, "Of course it is fun, if you go to work at it; but if you seek the line of least resistance it is not fun." Therefore Greek and Latin composition ought to stay just where they are. The requirements are not difficult. I know the papers of the examination board, and I know the papers of Yale College. With my class this summer I put a boy through all the papers of the examination board, and he said, "They are pretty hard." I said, "No harder than you are likely to get."

In this country we have already emasculated the Latin and Greek composition course by this miserable principle that you must limit it to certain portions of authors read. Yale now under pressure has limited it to certain orations of Cicero. What did I see in Rugby with boys two or three years before going to college? Pieces from George Eliot given them to translate into Latin. That is the way they turn out scholars. Why is it that the Rhodes scholars, even graduates from colleges here, go to Oxford to find that a boy comes from the sixth at Eton, or Harrow, or Rugby at 19, and beats them out in his grammatical and classical attainments? It is because the English public school has said to the boy, "That is to be done. Do it." I am reminded of the reply of a barkeeper out in Leadville to the request of a tenderfoot coming into his saloon for a bottle of apollinaris. He reached for his revolver and pointed to him and said, "You don't want apollinaris, you want whiskey, and you will like it, too." We need much more of the Spartan spirit in our schoolrooms, and less of the sugar coated pill theory of education.

Now, these boys are altogether too much coddled, to use a phrase which has come into public prominence a good deal of late. In intellectual life and effort, judged by work done and examinations faced, the American school boy as compared with his brother of the same age in England, France, or Germany, is a "molly-coddle." I say that deliberately. I know personally the work of the English schools, I think, as well as any other man in this room, and I know something of the work of German schools, and I have a collection of fine textbooks which I bring home every year. A year ago it was mathematics, this year modern languages. I brought home the textbook on mathematics used at Rugby forms two or three years

before graduating and showed it to a friend of mine, a professor of mathematics. "Why," he said, "there is not a man ordinarily coming to college in this country that could stand that work."

That brings me to my next point and that is the recommendation of the syllabus in geometry. Oh, this feeding out milk to full-grown boys. There is not any geometry that I know of that contains too many propositions. I use one very little known in this part of the country, but to me an admirable one, and I find a good number of propositions in it that are not in the Harvard syllabus at all. Boys come to me and complain sometimes, "Why, that proposition is original." I say, "It does not make any difference. You are to get it." With these lame ducks of mine that I had last year I covered the whole of that book. I covered about 150 originals—and I am not naturally a good mathematical teacher—and I covered my syllabus, so to speak, of 100 in Geometry B, as it is called at Yale, viz., the application of geometrical principles to arithmetical computation. Nobody here but a Yale man I suppose would know what that means. It simply means the practical application of geometrical principles or figures. I had some boys this last summer who were always complaining of it, and they could not do my syllabus. I said, "You will do it, of course." When they got through they said, "That is first rate. It is just what we needed." Now, then, that syllabus business is something that nobody ought to put his name to. It is lowering the standard of American scholarship. It is lowering the standard of American attainment of secondary schools. I hope there will be enough in this room that will not agree that that is the sort of thing.

There has been a great improvement in geometrical teaching since I was a boy, tremendous, and I am glad of it. This year we had at Yale the hardest paper I think I have ever seen set in Yale College. It is the hard paper of this year. I am not going to protest much against that paper, because it has done a great deal of good. My boys are all interested in it. They said, "There are more originals than I ever saw before." Only three book propositions, but most of them did very well. The examiners said, "We don't expect that they may get the whole of that paper or half of that paper. We judge by the manner of their tackling original propositions, whether they have got the original habit of mind that they should have in geometry. We don't expect them to do all. We

sometimes pass a boy who has not got 50 per cent. of that paper, simply because he has shown that he is able to apply geometrical principles in the way we want them applied." It is simply the carrying out of that recommendation of the Mathematical Association in England, called practical geometry. You hardly know a book of that sort in this country except a few of the newer books, but you will find half a dozen of them published in England in the last two years.

I think I have hit everything—let me see, algebra, history, Latin and Greek composition, and what was this last point? syllabus. That syllabus in geometry, yes. I would like to hit that still harder. I believe the only other point is physics. Now, I have to say upon that very little. It does not concern me at all. It does not concern the large majority of boys preparing for college at all, unless they are preparing for Harvard, and I don't pretend to know as to the difficulty of requirements in physics. I have never taught physics, and so I don't know the subject. I don't prepare in it. But I say this with regard to any action proposed by Mr. Tetlow, that the question of physics is a comparatively unimportant one compared with the other questions. Indeed for any school that prepares for Yale it makes very little difference. It is not, therefore, a question of great consideration. But I will say this before you take action on that. I will have to drop again into a little personal talk now.

I had a boy who came to me a year ago from a certain famous school as a hopeless case. Well, he went on through the year, and he got off a good number of subjects for the Scientific School, much to my surprise. He was so satisfied with what he had done that he wanted to spend his summer at it, and when I got back from Europe he was on the ground and anxious for more, like Oliver Twist crying for more. I said, "You shall have it," and I put him through. To my utter amazement he has added five subjects now, and he has, I think, only five more, or four more, to add. When he found he had done so well he thought he would wait until Christmas and take a vacation. His family wanted him to stay with me. But he is unfortunately one of those boys who rule their destinies; they rule their families. That is one of the great troubles with your boys. I said to the father, "Now, I will take this boy, and I will give him some additional work in physics through one of my assistants," for this reason: Anybody who knows about the

massacre of—we won't say—the innocents in the Sheffield Scientific School will tell you that of the large number who are dropped during the freshman year a very large portion have been shipwrecked upon mathematical physics and analytical geometry. I will organize a small class for those and two or three boys who are going to the Scientific School, and we will take mathematical physics, so when they get into the Scientific School they won't find it so hard as otherwise they would. Mathematical physics has got to be done somewhere, either in the secondary school or in the freshman year of the technical school. If you will do it yourselves there will be a chance for the teacher in the school to build higher up. If you don't do it, it has got to be done outside. But I care very little about that requirement. It does not concern me.

Have I hit all your points now, sir? Is there any other point? I think not. I will not take your time any longer. I have spoken with great feeling on this subject. I shall close by a motion to amend Brother Tetlow's motion. I object to action on this subject at the present time for two reasons, first, because there has not been full notice of the possibility of such action—

DR. TETLOW: May I interrupt to ask a question?

MR. FOX: Yes, sir.

DR. TETLOW: Do you object, Mr. Fox, to our finding out what the members present think about it?

MR. FOX: Put it in detail. Don't have any omnibus bill, as this is. If you will have the history clause I will vote with you, but when you come to bring in a whole omnibus bill I cannot. Secondly, we want to have fuller notice given those in this association. The secondary schools are very, very largely represented, and it is not fair to the colleges, if they are to have a discussion of that matter, that they may not know it. I should move, then, that this resolution be laid on the table and be made the order of action for next year, and that full information be sent to all the colleges, and they be asked to memorialize the association as to their feelings with regard to the subject, as to the action. That is my amendment to that motion. If it is a good cause it won't lose by waiting. We need a full, frank discussion. I expected to memorialize all the faculties of New England that I thought were interested in it, influenced by the New York Schoolmasters' Association when they had this up last year, but I got the impression from somebody down there that they had seen a better light, were not going to push

the thing. But I don't think that your action on this matter ought to be precipitate. In the second place, a vote should not be taken until after full discussion. Third, it should not be taken until the colleges have had a fair chance to put their side. I have tried to put it a little today.

I thank you very much for listening to me. I thank you sir, for giving more time than I deserve, possibly, but I wanted very much, and there have been very few to speak upon this side. I have taken more time than possibly I ought to have taken. If you only knew how much more I wanted to say you would forgive me.

THE PRESIDENT: I think we ought to give Mr. Farrand a chance to say a few words before we close this discussion. Mr. Farrand.

MR. FARRAND: One or two things have come up this afternoon in regard to which I should be glad to say a word or two. I cannot touch Mr. Fox's point of view, because he speaks from a transcendental experience that is very different from that of most of us. He may remember that in my paper I said that the pressure was unevenly felt and was felt less in those schools that prepared for only one college. Possibly, if some of the rest of us were simply preparing boys for Yale College, and had some of those brilliant "lame ducks" that he seems to have, we could do the work; but the question is hardly to be argued on that basis. What he said of the English boys reminds me of something that I think I am violating no confidence in saying. During the last summer, President Eliot, in talking with a friend of mine from New York, spoke of the fact that the scholarship of our American boys was poorer than that of the English boys, and illustrated his point by saying that our Rhodes scholars found themselves inferior in accurate scholarship to the English students with whom they came in competition. My friend turned on him and said, "That is true, and do you know the reason why? In my judgment the main reason is that those English students have never been forced over half of the subjects that you require of every Freshman that goes into Harvard College." In that lies the very point of the contention that I am making.

Professor Hart spoke of a third of the candidates for admission to Harvard offering more than the required number of points. That statement disturbed me when Dean Sabine made it in New York last spring. I very quickly, however, found the loophole that

Mr. Russell discovered, and the more I have thought over the matter, the more clearly I have come to the conclusion that Harvard is being "buncoed." We have not all the facts before us, but it is an easy matter for boys to take "fliers" in subjects in which they are by no means prepared. There is another matter that it would be well for the Harvard Committee on Admissions to investigate. I know of very few high schools in which the course of study taken by an individual student contains more than is required for Harvard. I have been told by teachers preparing boys for Harvard that a considerable proportion of their students have to take an extra year. I do not know how large that proportion is, but I have had several cases in my own school of boys who have found the burden so great that it was necessary to add a year to their course. There was not a full year's work left and they were, therefore, able to do more than was required for admission. They were a year behind time, however, in entering. Such considerations as these make us feel that closer investigation is called for, and I doubt very much if we shall find, on careful investigation, that the schools of the country are able to do more than is required by Harvard today.

Professor Hart's main point, however, was that, while there is something wrong in the quality of the work submitted for entrance to college, the way to remedy it is not along the lines indicated. That may mean nothing, or it may mean a great deal. It may mean that Harvard is contemplating a movement toward the certificate system, or, what I should fancy would be more probable, toward a new method of determining fitness for admission; and it is possible that Harvard will evolve something that will solve this difficulty. But suppose that Harvard is hatching out something. Ought the whole educational world simply to sit still while Harvard incubates? We are confronted with a condition; we have work to do which is straining our powers and which we are not able to do well. The remedies that I have suggested deal with the conditions as they exist. Let us try these remedies unless someone comes forward with something that is better.

THE PRESIDENT: May I ask Dr. Tetlow whether he accepts the amendment that has been suggested?

DR. TETLOW: I do not consider a motion to lay a matter on the table to be an amendment. I suppose, however, that such a motion takes precedence of the original motion.

MR. FOX: I did not hear your last word. You did not consider it an amendment what?

DR. TETLOW: It is a choking off of the motion that I made, not an amendment of it.

MR. FOX: Well, I moved the motion in the most solemn manner.

DR. TETLOW: When a member moves in the form of an amendment something in fact is not an amendment—

MR. FOX: It seems to me that no separate action should be taken.

DR. TETLOW: What is proposed cannot be called an amendment; but, of course, in parliamentary practice it takes precedence of the original motion.

THE PRESIDENT: Certainly.

MR. KNOX: I suppose the vote to lay on the table must be taken first?

THE PRESIDENT: Yes. The "so-called" amendment if I understand it, is a motion to lay upon the table the motion made by Dr. Tetlow.

MR. KNOX: It is not an amendment.

THE PRESIDENT: No, it is really a motion. I presume we shall have to vote on this first.

MR. FOX: I will supplement that with the motion that it be taken up next year for formal action of the association. Or must I make those as two motions? I am anxious for a decision of this matter as well as anybody but I want full and fair discussion of it; I want full representation of the colleges and everything of that sort.

THE PRESIDENT: If I may say so, I think that is all that Dr. Tetlow is seeking in this matter. He merely wishes a vote that it is the general sense of the meeting that changes or modifications in the college entrance requirements shall be made in the general direction indicated. It is surely not a very radical or far-reaching motion, or one that will arrest full discussion or action subsequently.

MR. FOX: May I speak again a moment?

THE PRESIDENT: Yes, sir.

MR. FOX: My feeling in regard to that proposition is this: If this meeting represents this association upon such an important matter as that—

DR. TETLOW: Mr. Chairman, that motion is not debatable, I believe.

THE PRESIDENT: No, sir. You have heard Mr. Fox's motion, the so-called amendment. I suggest that we vote upon that first. It is moved and seconded that Dr. Tetlow's motion be tabled.

(Mr. Fox's motion was rejected.)

THE PRESIDENT: We can now put Dr. Tetlow's motion. If he will be kind enough to give it in exactly the words in which he gave it before, perhaps we shall vote more intelligently. Dr. Tetlow, will you be kind enough to state the motion again?

DR. TETLOW: I move that it is the sense of this association that the requirements for admission to college would be improved by the introduction of changes or modifications in the direction of the six recommendations made by Mr. Farrand.

THE PRESIDENT: The association has heard the motion, and it is seconded.

(The motion was adopted.)

THE PRESIDENT: Mr. Fox is opposed.

MR. FOX: There were two negative votes.

# PHYSICAL TRAINING AS A COMPULSORY SUBJECT[1]

DR. DUDLEY A. SARGENT
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During the past few years the question has frequently arisen, in this country and in Europe as to whether the enormous amount of money devoted to education was being wisely expended. Many cities, in their desire for economy, have attempted to cut off what they termed the "frills and fads" in education, and in so doing have invariably struck the first blow at drawing, music, or gymnastics. In some cities, especially in New York, Chicago, and the more thickly populated communities, the attempts to do away with these fundamental branches of education have met with such decided opposition from the parents of the children that henceforth whatever else may be stricken from the curriculum these branches are likely to remain.

The discussions growing out of this agitation over school expenditures lead to an investigation in New York City of the condition of the school children. The light of investigation revealed homes and schoolrooms that were dark, dingy, and poorly ventilated; children with eyesight so defective that they could not see the blackboard, with hearing so defective that they could not hear more than half that was said to them; children with adenoid growths that interfered with their breathing and rendered them mentally dull; children languid, listless, and anaemic, for want of sufficient nourishment. As soon as these conditions were brought to the attention of the school authorities and the proper remedies were provided, there was an immediate improvement in the physical and mental tone of the pupils most afflicted.

The facts brought out in New York and Chicago have led to the adoption, in Boston and other cities, of an extended system of school hygiene, whereby the physical condition of the pupils may receive a more careful consideration. The establishment of health clubs, health education leagues, and the growing popularity of preventive medicine, all attest to the value which the people are begin-

[1] Read before the New England Association of Colleges and Preparatory Schools, Boston, October 11, 1907.

ning to place upon health as an asset in their social, domestic, business, and professional lives.

But should the health education of our children and youth stop at the prevention of disease and the correction of physical and mental defects? Is it not time that more constructive work should be done in the way of increasing our mental and physical vigor, quickening the senses, sharpening the intellect and augmenting as far as possible vitality and the natural powers of resistance? In other words in the terms of the subject assigned to me "Does not physical training in view of its effect on the intellect and will as well as on the body, deserve to become a compulsory subject in school and college and to receive corresponding credit in the system of marking?"

Physical training as at present conducted in our schools and colleges is largely a hygienic measure. In many institutions its chief function is to prepare students for athletic contests. In only a few schools is it regarded as an essential part of the educational system, and as a preparation for life. The reason for this indifference and, in some cases, decided opposition, to physical training on the part of the school authorities may be traced to several sources: First, the peculiar veiws of the old time philosophers and metaphysicians regarding the relation of mind and body; second, the influence of the church and monastic schools following the adoption of the Christian religion; third, the feeling, engendered by the beliefs of the early philosophers and Christians, that the body was inferior to the mind, and that those who worked with the body, or for the body, were necessarily of a lower social order. Among the Greeks mind and body were regarded as fellow-workers and were trained together, for a common purpose at the academy and lyceum. Later, we read the body gradually came to be neglected and despised. A powerful influence was given to this movement by the diffusion of Christianity, and especially by the gorgeous visions of a glorious immortality which were opened to the astonished minds of men awaking from a long pagan night. Body and mind were thenceforth held, by philosopher and Christian to have separate and antagonistic interests. To the philosopher, the body was a clog, and impediment to the acquisition of knowledge—a something perpetually interfering, by its pain, its sorrows, and its imperfections, with the clear views of truth which he supposed the unencumbered soul would obtain. To the Christian the body was sin incar-

nate, the source of all evil and temptation, the barrier between the soul and heaven. There is something even amusing in the excess of contempt in which the body was held, and the abuse heaped upon it. A prison house, a cage, a weary load of mortality—these are in comparison complimentary terms. In fine, the body was considered the source of all evil, and as such worthy only of contempt. The Platonist, as St. Augustine says, "holds that these our mortal members do produce the effects of fear, desire, joy, and sorrow, in our bodies; from which four perturbations the whole inundations of man's enormities have their source and spring." In the light of our present-day knowledge these emanations of the early philosophers and Christians bear eloquent testimony to the facts that we shall consider farther on—namely that the condition of the body does most assuredly influence the condition of the mind.

During the Middle Ages the church considered education to be its special function, and the elementary schools existed in connection with the monasteries, the cathedrals or collegiate churches, the hospitals, and the guilds. At this time little or no attention was given to the body. The schoolrooms, methods, and discipline were in harmony with the ascetic spirit of the age. However, in the sixteenth and seventeenth centuries interest in the body was revived, and gymnastics were introduced in many of the schools. The prime movers in this revival of interest in physical education were Rabelais, Montaigne, Comenius, Locke, Rousseau, Bacon, and other educational reformers. Later this special movement was more highly developed by Basedow, Gutsmuth, Jahn, Salzmann, and Spies in Europe, and by Follen, Beck, and Lieber in this country. The influence of the early philosophers, the early Christians, and the church fathers molded and controlled the curriculum of our schools and colleges up to within the past fifty years. The educational reformers did much to liberalize the course of studies and popularize physical exercise, but the fact remains that even at the present day the vast majority of our institutions of learning still hold, in practice, if not in theory, that body and mind have separate and antagonistic interests, and therefore cannot be considered in the same curriculum. This position of the schools is rendered somewhat anomalous at the present time from the fact that the philosophers as interpreted by the modern psychologists now repudiate all antagonisms between body and mind and the church organizations and Christian associations now regard physical training as one of their strongest allies in carrying on their Christian work.

Let us consider briefly some of the facts in regard to the relation of body to mind which it has been the province of the physiological psychologist to unfold. All psychologists of the present day are practically united in their views of the interdependence of mind and body. The only ground for differences of opinion is in the causal relations. Those in favor of the theory of interactionism claim that the brain is simply the instrument of the mind, that causal relations run both ways, from the body to the mind as sensations, and from the mind to the body as volitions or motor impulses. The theory of automatism, first advocated by Huxley, maintains that the causal relation runs in only one way, namely from the body to the mind. The theory of parallelism first brought into prominence by W. K. Clifford denies all causal influence and asserts, conditionally, that mind and body are opposite sides of the same thing. Concerning the merit of these three theories I must leave you to draw your own conclusions. All are based upon facts with which mankind has been more or less familiar for generations. It is upon these facts which show a most intimate connection—a psychophysical relation—between body and mind that I shall base my argument in favor of making bodily training an essential part of the school curriculum.

Some of the more common effects of the body upon the mind may be briefly mentioned. Bathing the face, head, and neck in cold water stimulates mental activity. So will a cup of tea, coffee, or cocoa, a light, warm breakfast, or a short brisk walk in the fresh air. The sights we see, the sounds we hear, the odors we smell will influence our mentality and color our thoughts and feelings throughout the day; so will the condition of the weather, the temperature, humidity, density, and electrical state of the atmosphere. Excessive bodily fatigue may cause unconsciousness. A person who has lost consciousness by a blow on the head, may awake mentally deranged, or with memory impaired, the faculty of speech partially or wholly destroyed, or he may return to consciousness intellectually brighter than before. The use of drinks, drugs, and medicines depends upon their specific effects. For instance alcohol in its various forms gives one a feeling of exhilaration, hasheesh exalts the sensations, opium enriches the fancy and imagination, chloral, sulphonal, trional, and the bromides act as narcotics, putting one quietly to sleep, cocaine takes away the feeling of local pain, while ether, chloroform, or nitrous oxide temporarily abolish all consciousness of pain. Nearly all the activities of the day, and all the influences that bring

about sleep, causing us to spend one-third of our time in a state of unconsciousness, are largely of the body, or physical in their origin. The physical changes in both body and mind are brought about through the agency of the circulation, respiration, digestion, etc. A well-organized, efficient brain is dependent upon a vigorous heart, capacious lungs, good liver and excretory organs, and all of these parts may be dependent for the proper performance of their functions upon a good stomach and perfect assimilation of food. Thus education is dependent upon and may be regarded as a form of nutrition. The condition of the bodily organs affects the mental state specifically. With a strong, vigorous action of the heart there is a feeling of courage, and general exaltation; with a weak heart fear predominates and an enfeebled circulation depresses mental activity. Ample lungs are usually accompanied by an optimistic spirit and a happy, sanguine disposition. A disordered liver occasions low spirits and a blue, bilious state of mind. A weak stomach and chronic dyspepsia may occasion irritability, peevishness, and sullen fits of temper. Imperfect intestinal digestion or obstinate constipation will frequently occasion a feeling of impending danger and gloomy forboding, sometimes ending in melancholia. A slight irritability or congestion of the generative organs may occasion all sorts of mental symptoms from the silly freaks of a hysterical girl to the highest flights of a poetic genius. "No philosophy can cure us of the blues" or relieve us of the mental disturbances occasioned by the disordered functions of the bodily organs. A restoration to sound physical condition is the only remedy.

Our organic functions are molding our bodies and determining our constitutions and our temperaments and working on our wills and characters. Through the influence of the blood, muscles, and nerves the complex mechanism which we term the body is unified. This absolute unity of the body, this condition in which the part everywhere works in the whole and the whole in every part, is becoming more and more apparent to the educational psychologist.

There is in regard to the bodily organism [says Mandsley] a further consideration which is not always adequately realized—namely that it is a self-adjusting and self-registering structure; the modifications which it undergoes through exercise do not pass away without after-effects, but are embodied in the structure and made part of its nature, so that they enter into the life and function ever afterward. Its life principle is indeed a principle of continuity: in the living present the incorporate past is active. "Our

deeds follow us from afar, and what we have been makes us what we are." The organic registration affords an instructive instance of the operation of the law of the conservation of energy in the fashioning of the will. For we perceive that in an act of will, which always renders easier a following similar act, not all of the energy is expended in the outward effects that it accomplishes, but some of it goes to lay the foundation of a future will. So it is that will remembers and learns to will, exercise building up faculty, and conduct character; and that the will becomes according to its training, either the calm agent of strength, or the shifty accomplice of weakness.

Training the will! What is more important in education? Yet just how this result is brought about through physical training has not been understood until a comparatively recent period. A well-organized brain consists of millions of cells commonly called sensory, and motor cells, and the associated brain fibers which connect them. An efficient working brain calls for the development of these three parts. A failure to develop any one part means that the function of the brain as a whole will be imperfect. The only way known to develop an organ or part of either body or brain is to give it its appropriate exercise. It is the special function of the sensory nerves and brain cells to take in sensations from the outer world through the eyes, ears, nose, muscles, skin, tongue, etc., and to give expression to these sensations in terms of action through the motor cells. "No impression or idea of eye, ear, or skin comes to us," says Professor James, "without occasioning a movement, even though the movement be no more than the accommodation of the sense organ." "Sensation never exists as an end in itself," says Dr. Halleck. "We live and secure things through action only. If a sensation does not lead to action either immediate or remote, the sensation is worthless. That education which divorces ideas from action is a curse." According to the biologist the brain has been evolved for the purpose of guiding and controlling the movements of the body through the actions of the muscles. How is this guiding and controllng power developed? The earliest movements of the child are reflex, instinctive, and impulsive. It does not will to move its arms and legs—it simply moves them in response to the stimuli playing upon its senses from without. Later, if you place your finger in the child's hand the hand will grasp it; put a glass stopper in its mouth and the child will suck it; exert a little upward pressure on its feet and it will extend its legs. The eyes will follow a light, the head turn in the direction of a sound, and every sensa-

tion will be followed by a motor impulse. When the infant becomes a child toss a rubber ball to it to catch. The ball will go through its hand and strike its body or face. The child cannot will to catch the ball because it cannot act purposely or intelligently. It has no idea of what it must do to catch the ball. Here again, to quote Professor James

> Before the idea can be generated, the movement must have occurred in a blind, unexpected way and left its idea behind. Reflex, instinctive or random execution of a movement must, in other words, precede its voluntary execution.

Put in still another way we cannot do an act voluntarily unless we know what we are going to do, and we cannot know exactly what we are going to do until we have taught ourselves to do it. In more senses than one we learn by doing. The simplest movement brings about a change in the organic structure of the brain, and this change leads to more complex movements and further improvement of brain structure. Most skilled movements give more exercise to the central nervous systems than to the muscles. Movements calling for a high degree of skill, correlation of the different senses, sense discrimination, fine co-ordinations, and a rapid and responsible exercise of judgment all tend through action of the associative fibers to a high degree of brain development. For this reason students often find that fencing bouts exhaust them mentally and unfit them for the time being for further mental efforts in study. It has been found, in the attempts that have been made to educate idiots and the feeble minded, that muscular movements, and simple exercises, and the handling of objects and playthings furnished the best means of getting ingress to their minds. With less marked cases of mental deficiency the interest awakened by gymnastics, and by plays, games, and athletic sports calls forth decided mental efforts and results in marked physical, mental, and moral improvement. The experiment tried at the Elmira Reformatory in 1886 further illustrates the power of physical processes in awakening a higher degree of mentality. A class of twelve dullards was selected from the inmates of that institution and put through a systematic course of physical training for five months. Nearly all showed decided improvement in physical development, moral character, and mental efficiency. As a matter of fact, criminals, dullards, the feeble minded, and the insane as a class are considerably

below the average normal individual in physique, as shown by height and weight, while the members of any organization known for distinguished mental ability, like those of the Royal Society of England, will be found to be above the average normal height and weight. By ascertaining the physical condition of large numbers of people, the natural correlation between body and mind may readily be shown. In the year 1893 Dr. Wm. T. Porter examined some thirty thousand children who were in the public schools of St. Louis. He found that, among pupils of the same age, the average height and weight of those who were in the higher grades was greater than that of those who were in the lower grades. In other words, he found that those pupils who were mentally the most precocious were also physically the most precocious. This announcement called forth considerable criticism at the time, and many teachers, recalling a number of exceptionally bright pupils who were small in stature for their age, doubted the truth of the statement. It may be of interest therefore to note that Dr. Porter's conclusions have since been confirmed by observations made by Dr. Hasting in Omaha, Neb., by Dr. Byer in Cambridge, by Dr. Christopher in Chicago, by Dr. Roberts in London, England, and by Dr. Leharzig in St. Petersburg, Russia. In face of such a body of concurrent statistics from different parts of this country and Europe, no one can doubt for a moment the natural relationship between a vigorous brain and a vigorous body.

But how are the vigorous body and brain attained? No one familiar with the growth and development of the human body, especially with its bones, muscles, brain, nerves, and tissues, can doubt for a moment that useful activity has played the most prominent part in its upbuilding. The natural history of the muscular system alone makes clear to us that there is not a simple movement capable of being performed by man which has not been performed thousands and thousands of times before by his near or remote ancestors. In the history of the bones, muscles, nerves, and other tissues of the body we read the records of his primitive acts and struggles through the ages. Who can doubt the part that walking, running, jumping, swimming, climbing, throwing, pushing, pulling, lugging, tugging, kicking, wrestling, and fighting have played in the development of the human organism? Who can question the developing influence of the great industrial epochs through which man has passed such as the hunting, fishing, pastoral, and agricultural

stages of his existence, and the age of metals, travel, trade, and transportage when man acted as a beast of burden? Consider the probable influence of the house industries from time immemorial and the period of the handicrafts lasting from the tenth century until the beginning of modern times. Need I say that these manifold activities have stamped their imprint upon every bone, muscle, nerve, and brain cell of the human organism, and if we would maintain it in its present integrity must we not from necessity repeat in some form or other the sensory and motor activities to which the present development is due?

Did time permit, it would be possible to show by further illustrations that even reason, judgment and the so-called higher faculties are rooted in the mechanism. We have spoken of the influence of the bodily organs upon mental states, but mental states also influence the bodily organs. All mental states are followed by bodily changes. As the psychologists tell us, "all consciousness leads to action." The action of the body upon mind, and the reactions of mind upon body go to make up the sum of human experiences. These experiences postulate a succession of functions that have been capitalized in structure as faculty. All that we are able to do today is the result of our previous physical education given us through heredity or through our experiences in former years. It is only when we consider how helpless we would be but for such physical training as we have received through our past efforts at work or play, or when we consider that there could have been no language, no art, no music, no agriculture, manufactories, or commerce—in fact no history without physical activity and muscle training—only then is it that we begin to realize the dignity and importance of the subject.

Some of you may ask: If physical training is considered so important a part of mental education, why has it not been brought into prominence before? To the prejudice against the body rooted in the asceticism of the early promoters of education I have already referred, as well as to the relegation of labor to the serfs and lower classes of society. Another reason may be found in the very nature of the school itself. The Greek word σχολή meant a place of leisure, a place to which pupils and teachers repaired when there was nothing else to do. Until a comparatively recent period the vast majority of schools in America were half-time schools. The so-called country school even now is conducted for only a few

weeks in the year. It is hardly to be expected that such schools, many of whose pupils are engaged in physical activity for nine months in the year, would devote much time to physical training. Montesquieu said: "We receive three different kinds of education, one from our parents, another from our teachers and another from the world." The education which we would naturally receive from our parents and home surroundings is now to a considerable extent wanting in consequence of the absence of home chores and industries, the large numbers living in city tenements and apartments, and other great changes that have taken place in the family life. The education that the world gives to most of us is, in consequence of the division of labor, narrowed to the smallest fraction of a trade or vocation, where the physical and mental efforts required, though often intense, are not varied enough to keep body and mind from deteriorating. Hence the cry of shattered nerves, heart failure, and broken constitutions.

The hopes for education in the future lie with the school boards and the teachers. How to work physical training into the overcrowded curriculum is the first problem. The first essential toward this end is, in my opinion, to convince teachers and school authorities of the absolute necessity of physical training as a fundamental basis for higher education. To hasten this conviction all teachers should be required to give evidence of their physical as well as mental efficiency before receiving their appointments. This requirement on the part of teachers should be supplemented by a further requirement on the part of the pupils, that all advancement from class to class and from school to school should be based upon a physical as well as a mental examination. Entrance to college also should be based upon a test of physical as well as mental efficiency. The moral effect of these physical requirements would be to throw the responsibility for physical condition back upon the parent, the preparatory schools, and teachers, as well as the pupil himself.

Objections to these requirements would undoubtedly be raised by those who still hold to the old theory of independence of body and mind or by those who recall individual instances of illustrious men who were weak, puny boys, and who would have been disqualified for entrance to college by a physical requirement. These exceptional cases are as nothing when compared with the great mass of individuals whose mental state is improved by the improvement of the body. No nation has ever attained intel-

lectual greatness that has not first laid the foundation in the physical training of their youth. If a requirement of physical fitness and efficiency is not introduced and maintained in our preparatory schools and colleges we shall have a continuance of the conditions that prevail today where one class of pupils carries bodily training in athletics to excess, a few exhaust their vitality through excessive mental application, while the largest class does not get enough bodily training to keep in good physical condition, or to permit the realization of half their mental and physical possibilities. This is the inevitable result where body and mind are thought to have separate interest and are made to antagonize each other. This course would seem to put a premium upon the student neglecting his body in hopes of advancing his mental and moral efficiency, as did the monks and philosophers of old. We now know that such a course in the long run is suicidal, and the institution that encourages it by failing to recognize the just claims of the body assumes a responsibility for which it should be held accountable. What we need to foster among our youth is not the spirit of competition as so many think, but the spirit of emulation that makes the highest mental and moral attainments the goal to be won, recognizing the necessity of physical efficiency to this end. I do not know of any better method of fulfilling the very broad obligations of our educational institutions than by making physical as well as mental training a part of the regular curriculum. There is no reason why physical work could not be as judiciously graded to meet the needs of the pupils in various stages of physical development as is any form of mental training. Under the head of physical training I should be glad to see included all forms of physical activity, including music, vocal and instrumental, drawing, painting, and modeling, and all forms of manual training, dancing, skating, swimming, rowing, bicycling—military drill—all forms of calisthenics, games, plays, and the various forms of athletic sports. No one of these exercises would furnish a complete system of physical training in itself, and from a developmental point of view, several might have to be given to counteract the effect of partial exercises, like manual training, military drill, etc. From an economic point of view plays, games, free exercises, and light gymnastics would be the most serviceable in the public schools, but a wider range of exercises should be arranged for preparatory schools and colleges. With such a variety of exercises we would expect to bring about not only a harmonious development of

the muscles, invigorate the heart, lungs, and other vital organs, as Huxley says, but so train the body as to make it the ready servant of the intellect and will, and enable it to do with ease and pleasure all the work that as a mechanism it is capable of. Some of the specific mental and physical qualities which would be developed by such a course would be increased powers of attention, will, concentration, accuracy, alertness, quickness of perception, perseverance, reason, judgment, forbearance, patience, obedience, self-control, loyalty to leaders, self-denial, submergence of self, grace, poise, suppleness, courage, strength, and endurance. All of these mental and moral qualities may be trained and developed through the physical activities. Moreover, if much of the so-called intellectual training obtained through books was correlated with these physical activities at the time in life when they dominate the interest of youth, much greater progress than is now realized would be made in the attainment of intellectual results. Here is a new field of research and scientific investigation. If, however, the teacher should be so unfortunate as to tell a boy that a baseball could not be curved by a pitcher, that the speed of a boat could not be hastened or retarded by the movements of a person within it, or that the human body is always lighter than the same volume of water, I am afraid that the boy's respect for science might be shattered for his daily experiences would have taught him to the contrary. I say daily experiences, but when we consider that there are boys today at Harvard who have never driven a nail, sawed or split a stick of wood, or built a fire, perhaps this assertion needs qualifying. The only field today where the mental and physical activities are correlated to any considerable extent, is in the field of athletic sports. I think I may say without fear of contradiction that these physical activities have furnished a greater opportunity for mental training through the expression of terse, vigorous English than any other subjects—primarily because the boy is interested in these matters and knows more nearly what he is talking about.

The weakness of this great athletic movement today from an educational point of view is the failure of young men to apply the teachings of the classroom to the problems that arise in connection with their sports, games, and physical exercises. Not only do they ignore the teachings of the chemical, physical, and physiological laboratories, but even the teachings of morality, ethics, and the principles of brotherly love. What has the teaching of the class-

room to do with the practice on the ball field? To use an illustration which I have used before: If a student attends a course of lectures on hygiene and repeats to the professor "parrot-like" what the professor has told him, about the care of his health, the importance of physical training, etc., he receives a mark to his credit toward a diploma. If on the other hand the student is moved by the lecturer to take a systematic course of physical training which is applied hygiene, he gets no credit for it in terms by which his other school and college efforts are judged. In one case he has sat in a stuffy lecture-room and improved his memory in hearing what he ought to do; in the other case he has formed correct habits of living—increased his physical and mental vigor, improved conduct and character and made himself a better man for anything a man may be called upon to do. Does anyone question for a moment which of these two men are best prepared for life—or which one is most likely to render service to his fellow-man? Does not the same principle apply to the teaching of ethics in the classroom and the practice of ethics on the ball field? Can we reasonably expect a student to be unmindful of the importance of applied hygiene, and not become equally obtuse to the importance of applied ethics? Is not this indifference to the practice of hygiene and ethics the legitimate outcome of our faulty methods of teaching—thinking without acting, words without deeds—precepts without examples? Can anything in education be more pernicious? I do not know of any better way of correcting this evil, and unifying the aims and purposes of education, than by giving a scholastic value to every effort toward self-improvement in physical training, just as always has been done for purely mental efforts. At the present time, in many schools and colleges, it is customary to forbid students to take honors in athletics, unless they have a creditable standing in their studies. In order to be consistent this requirement should be coupled with another, i. e., that no student should be given honors in his studies unless he attained a certain grade in his gymnastics or athletics. This last requirement would insure the conscientious student against sacrificing his health in view of raising his standing in scholarship, which at the present time he is likely to do on account of the keen competition to which he is subjected.

Judging from my experience at Yale some years ago, if physical training were made a part of the school curriculum, the class that stood the highest in scholarship would invariably stand the highest

in physical exercises. In order that such a requirement be fair to all classes, the grading should be based upon three factors, namely, the effort, the achievement, and the mental and physical results. In conclusion I will say that I believe such a scheme as I have described to be essentially practical, and when adopted will not only add to the physical vigor of our youth but also to their mental power and efficiency. Is not such a "consummation devoutly to be wished?"

# EDITORIAL NOTES

AGRICULTURAL HIGH SCHOOLS

At the present time a great wave of interest in industrial education is sweeping the country. Large cities are building manual-training high schools, commercial high schools, and industrial high schools. Trade schools and textile schools are even being built and maintained at public expense. The last type to be exploited is the agricultural high school. These schools are hailed by the masses because they appeal to utilitarian instincts—one of the most fundamental in the human race.

The people see in these schools a direct relation between going to school and getting a living. In order to secure the support of the masses schools must always recognize these fundamental relations. No school supported at public expense and created through the will of the people ever prospered without giving evidence of ministering in some way to the satisfaction of needs, either material or spiritual.

It is the purpose of these paragraphs, however, to call attention to one element which seems to be somewhat overlooked by many. It is an element which is full of hidden dangers and is inimical to the continuance of many of our present high schools. This is the danger:

If the new type of work means the establishment of a *separate* system of high schools, the existing high schools will be sapped of the means of their very existence. If separate schools are to be set up the people will gladly vote money to pay for the industrial training schools but will groan and complain and rebel if asked to tax themselves much beyond their present limits. At the present time there is abundant evidence that people will appropriate their money more freely for those subjects which seem to be nearer to everyday life and which promise relatively immediate pecuniary returns. The manual-training and domestic-science teachers, instructors in shorthand, bookkeeping, and commercial branches, and the athletic coach all receive higher salaries in our secondary schools than teachers of the regular branches. Teachers of the so-called more practical subjects are as a rule much less well trained, have a lower professional standard, are more itinerant, less devoted to their work, and less valuable to the school in the training for character than the other teachers. This is true because the subjects are so new and the fact that most teachers of these subjects regard their positions as makeshifts or stepping-stones to something else. It is often argued that competition determines salaries. But this is fallacious. Good teachers of history, mathematics, or German are just as scarce as good teachers of manual training or typewriting. The country is full of girls who can teach typewriting yet teachers of typewriting are offered far more than

teachers of Latin. The difference is due to the ways in which the subjects appeal to the people. Many a farmer will pay $2,000 a year to an expert stockman but will vote to pay $30 a month to the teacher of his boys and girls. Again, school boards will often purchase lavish equipment for the manual training, the commercial departments, and the trades, when they will not purchase the most meager library of books for history and literature.

If separate schools are organized in which to teach agriculture and the industrial subjects the conditions will be woefully exaggerated. The old general-culture schoolhouse will become weather-beaten and dilapidated and the new school buildings for the trades will rise up like palaces. A few months ago I visited in a city supporting the two types of school. The older type of school had at its head a man of national reputation, and who had a corps of coworkers of remarkable culture and power. In training students to the highest types of scholarship and character this school was renowned among the cultured class of the city. I started one morning to find this school and inquired my way of the working-people whom I met. I mentioned the man's name and the name of the school each time. After a rather long walk along the route pointed out by all my guides I found myself at the door—not of the school I sought, but the manual-training high school! That was the only high school the common people knew about. I had been within a block of the other, but nobody seemed aware of its existence. The contrast between the two buildings was enough to furnish a text for my comparison of equipment given above.

There is one other and more urgent reason why a separate class of high schools must not be allowed to spring up. Just as sure as they do they will breed social distinctions and cause stratifications in society. It has been our boast that children of all nationalities, occupations, and creeds enter our schoolroom doors and emerge together—American citizens. The American public school is the greatest factor in developing American citizenship that we possess, and its function in developing American citizenship is greater than teaching arithmetic, Latin, or trades. Social efficiency is much more needed just now than business efficiency. But, alas, too many are thinking only of business acumen.

Let us take a lesson from foreign countries. There the stratification of society is complete. A boy born in a lower station of life seldom gets out of that class—unless he migrates to America, where we have boasted that his only limitations are his brains and his own industry. Let us not recede from that boast. In European countries a separate class of schools is maintained for each stratum of society. The boy who goes to the common school can never expect to enter the university. Those who enter the trade schools and agricultural schools do so, not from interest in them but because those are the only doors open. Of course the schools there are a product of social conditions, but in turn the schools intensify and perpetuate the class distinctions.

If we wish to promote true democracy and avoid artificial distinctions we must see to it that we have only one class of public schools and that including every subject worthy of consideration and open on equal terms to every boy and girl in the community. The admission of girls to the public schools of Boston in 1789 on equal terms with the boys was an event of no less importance than the launching of our federal government in the same year. Those communities which still segregate the boys and girls in their public schools have not yet fully caught up with the full significance of the emancipation of women.

Manual training, domestic science, agriculture, and the trades must be represented in our schools, but not in separate schools. They must be by the side of the others and under the same roof. Pupils who wish those subjects must be given equal opportunities with those who wish Latin, history, or mathematics. On the other hand the boy who wishes Latin, history, or mathematics must not be discriminated against. The plan of United States Senator Davis to appropriate funds from the national government for the support of agricultural departments in our existing high schools is a good one. The only weak point in the scheme is that it contemplates supporting agriculture only.

The one who argues for the establishment of a separate system of agricultural high schools, or separate industrial high schools is wittingly or unwittingly an enemy to our present high schools and to true democracy.

FREDERICK E. BOLTON

# BOOK REVIEWS

*The Poetry of Chaucer: A Guide to Its Study and Appreciation.* By Robert Kilburn Root, Ph.D., Preceptor in English in Princeton University. Boston: Houghton, Mifflin & Co., 1906.

Lovers of Chaucer will give a hearty welcome to this book. It is beyond question the best single volume on the subject. As compared with Professor Ward's study in the "English Men of Letters" series, it has the advantage of presenting with an approach to fulness the highly important results of scholarly research in recent years; as compared with Mr. Snell's superficial volume, the *Age of Chaucer*, it arouses an enthusiasm that is checked only by the regret that, being so good, it should not have received the small additional amount of labor and thought necessary to make it thoroughly satisfying. The defects here hinted at will not be consciously felt by the general reader, and the author will perhaps therefore feel that criticism of this sort is unjust, as his book, though striving to serve the student, is intended primarily for the general reader. But neither author nor critic ought to allow the general reader to suffer the deprivation of the best, unconscious though he may be of his loss and pleased though he may be with what he gets.

Thus, although it is of little consequence to the general reader that the references to recent Chaucer literature are not quite complete—they are, however, so nearly complete that it seems a pity not to have served the scholar's convenience by making them quite so—it is a matter of concern that a few articles have been overlooked that would have modified Dr. Root's discussions in a way that any intelligent reader could appreciate. Professor Brown's article on "Chaucer's Little Clergeon" would have furnished some interesting material for the discussion of the "Prioress' Tale." My own paper on the curious poem called the "Complaint of Mars"—to take one of the least important omissions—would surely have led Dr. Root and his readers to find a greater interest in the poem than "the fact that a somewhat difficult nine-line stanza is handled with a good deal of skill." The discussion of the "Envoy to Scogan" would have gained not a little from Professor Kittredge's brief but illuminating account of Scogan and his relations to Chaucer and to the young princes of Lancaster. And by no means exhausting the list, the section on the "Pardoner's Tale"—the most brilliant and interesting bit of writing in the book—would have been made even more interesting if Dr. Root had read Professor Kittredge's subtle and convincing note on the Pardoner in the *Atlantic Monthly*.

More serious for the general reader than these details, however, is the fact that in his discussion of the difference between the Middle Ages and the Renaissance the author is obviously "moving about in worlds not realized." It is true that he chants for us the current formulae, but we have a right to expect something better than the current formulae from a writer who has read his Chaucer and Gower, his "Piers the Plowman," and "Gawain and the Green Knight," and the "Pearl" as diligently as Dr. Root appears to have read them. "That the mediaeval mind has its gaze fixed primarily on the spiritual and

abstract, that of the Renaissance on the sensuous and concrete;" that "in its dealings with society and with humanity in general, the mediaeval tends towards communism, the Renaissance toward individualism;" that with the coming of the Renaissance "we have a splitting up of the social body into small groups of individuals, but slightly interested in each other's welfare, and as the consciousness of the whole community begins to fade, art and literature become limited in their appeal;" that "the age of faith gives way to the age of reason;" that the Renaissance brought an increased tendency to irreligion and immorality; that in the Middle Ages art was not divorced from daily life; that in contrast to the conditions in the Middle Ages is "the hideous fact that our boasted civilization is largely a civilization of materialism, of selfishness, and legalized greed" —these and others like them are formulae consecrated by usage, and some of them even contain a small amount of truth, but they not only do not explain the Middle Ages and the Renaissance; they actually make any real understanding of them impossible.

A somewhat similar dissatisfaction may be felt with Dr. Root's discussion of Chaucer's character and mental qualities. His Chaucer is such a person as one reads about in books, not such as one meets in life. There is here again too much intellectual inertia, too much echoing of current formulae, too little effort to see the facts as they really are, to give them body and form and local habitation instead of a mere verbal tag. This is especially noticeable in the remarks concerning Chaucer's religious views, in those concerning his aloofness from the world, in those concerning his limited metrical range. As of equal interest with these we may note the discussions of Chaucer's originality and anachronisms in his art. In both these instances Dr. Root seems on the point of giving us the truth. In regard to the latter he tells us that, if Chaucer indulges in anachronisms—"shocking anachronisms," he calls them—so does Shakespeare. So he does, and so does Tennyson, and so does Browning; so to a greater or less degree does every artist who deals with the past. The question is altogether one of degree, and the amount and kind of anachronism allowable—nay, necessary and desirable—depends upon the antiquarian knowledge of the artist's audience and upon nothing else. The artist's concern is to convey to his audience his thought and feeling. He has just as little right to shock them by introducing elements historically true but requiring an antiquarian explanation or justification as to shock them by elements known and felt to be historically false. The principle is the same as that so profoundly enunciated by Wordsworth concerning the limitations under which poetry may deal with scientific facts, and rests upon the same psychological basis. "The remotest discoveries of the Chemist, the Botanist, or Mineralogist, will be as proper objects of the Poet's art as any upon which it can be employed if the time should ever come *when these things shall be familiar to us,* and the relations under which they are contemplated by the followers of these respective Sciences shall be manifestly and palpably material to us as enjoying and suffering beings." Nothing is available for poetry that is not either familiar or capable of being immediately seized and harmonized by the imagination.

In discussing Chaucer's originality, Dr. Root seems almost on the point of exploding forever the foolish current idea that because we can point out where Chaucer and Shakespeare got some of their raw materials, they need some

defense on the score of originality, as compared with modern writers who get their materials mainly from untraceable sources in literature or life. In the sense implied by this current foolish idea it is probable that originality cannot be claimed for any writer that ever lived. The sole question that can properly be asked in determining the originality of a work of art is, Did the artist make a new thing of his materials. Whether the change required one stroke of pen or brush or chisel or a thousand is of no consequence: the result is all.

Chaucer's attitude toward the corruptions he saw in the world about him seems to me by no means the complacent one expounded by Dr. Root on p. 29. Here again, however, Dr. Root gives us the standard view. That Chaucer does not indulge in thundering denunciation is true, but surely his satire is keener, bitterer, more effective than even that of Langland or Wiclif. He does not allow his indignation to make his verses, because he is too good an artist and too skilful a combatant, but the moral feeling that prompted his satire is unmistakable. A warrior should not be charged with indifference or aloofness from the fray because he prefers to slaughter his enemies with a rapier instead of a pike-staff. Indeed it may be said that the satire of "Piers the Plowman" is most effective when it most resembles Chaucer's in method.

I have dwelt perhaps too long upon defects which after all occupy only a small part of Dr. Root's book. I have done so because whenever a new discussion of Chaucer's work and character appears, it awakens the hope that some of these false notions of Chaucer and the Middle Ages have at last met their deserved fate; and the many excellencies of Dr. Root's book encouraged this hope even more than usual. I should regret it very greatly if disappointment in these matters should lead anyone to believe that this most interesting and useful book is to be rated less highly than is indicated in the opening paragraph of this review.

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*The Short-Story, Its Principles and Structure.* By EVELYN MAY ALBRIGHT, M. A. New York: Macmillan, 1907. Pp. viii+260.

Our knowledge of the art of short-story writing is so limited, and contributions to the study of its principles are so few that one dislikes to make any adverse criticisms on an attempt to enlighten one on the literary devices of the short-story. Yet, we believe, Miss Evelyn May Albright's *The Short-Story: Its Principles and Structure,* is hardly worth unqualified admiration. There is little evidence in the book that Miss Albright has pursued a long and laborious course of reading in the short-story, and, moreover, there seems to be some indications that the author has drawn heavily on sources other than her own. We do not mean to suggest that she has "lifted" her material from other books, but rather that she has depended to some extent on the work of others, both in her own classes and in advanced university work, and not on original research. This is, of course, perfectly legitimate, but in a strictly scientific and scholarly investigation, the reader has a right to expect something besides glittering generalities and wide platitudes. An instance in point is Miss Albright's assertion, "the short-story can never, like the novel, give the whole of life It can

only aim to present, in a vigorous, compressed, suggestive way, a simplification and idealization of a particular part or phase of life." If we correctly understand Miss Albright's generalization we must omit Mr. Henry James's short-stories, for, if we recall that author's "The Lesson of the Master," we find that three of the characters have their life-histories given. "Greville Fane," "The Real Thing," "Sir Dominic Ferrand," "The Chaperon," "Marriages," "The Pupil," "Brooksmith," and other stories by James contain the history of entire lives. Mrs. Mary E. Wilkins Freeman, too, we believe, is not adverse to giving a sketch of the whole life of some of her most delightful characters, among whom we recall Louise Ellis, Joe Daggett, Candace Whitcomb, Polly Moss, Hannah, Betsey Dole, Hetty Fifield, and "Mother." Poe, to cite one more instance, has at least three characters whom he depicts as to their entire lives. Certainly, Miss Albright's assertion is not untrue for the most part, but it is not so accurate as one expects from a professed student of the short-story.

Our quarrel with the author, however, does not stop here. Why should she fall in line with recent criticism and condemn Henry James, Jr., as a writer of short-stories? Why should she say that none "but a pedant will pretend to the keenest interest in them"? This may be true—*de gustibus non est disputandum*—but is it in place in a study proposing to treat the principles and structure of an art practiced by such a man as Henry James, Jr.?

To drop to less important matters, it seems strange to see in print "William Thackeray," and "William Howells," and to see "Mrs. Mary Wilkins Freeman" on one page and two pages further on to see "Mrs. Wilkins Freeman." But our petulant criticism must cease.

Did our space permit we should like to quote the chapter headings of the book. Briefly, the chapters deal with gathering the material, motives, plot, mechanism, unity of impression, titles, characterization, dialogue, the setting, realism, fantasy, the emotional element, and the spirit of the author. The Appendix contains a very suggestive and helpful list of readings, and a few suggestions for assignments of stories and constructive exercises.

H. E. COBLENTZ

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*Manual of Composition and Rhetoric.* By JOHN HAYS GARDINER, GEORGE LYMAN KITTREDGE and SARAH LOUISE ARNOLD. Boston: Ginn & Co., 1907. Pp. xi+500.

The names of the authors of *Manual of Composition and Rhetoric* constitute a sufficient guarantee that the book is scholarly and practicable, that it is the outcome of much experience and laborious consultation, and that it will stand the test of the classroom in the hands of an experienced teacher. That it is a good book for a beginner in English is not so evident, but then the authors disarm the critic on this point by stating that it "has been prepared to meet the needs of those teachers and students who require a manual of composition and rhetoric somewhat fuller, and rather more advanced, than the same author's *Elements of English Composition.*" The book is admirable for one feature: it will be equally satisfying to those teachers of English who demand that the subject of composition should be related with the "experiences of everyday life on

one hand, and on the other hand, with the study and appreciation of good literature." Again, the authors have made a happy combination of the newer ideals of teaching composition with the older and more classic principles of rhetorical technique—a feature that some recent writers of composition books have tried, but have only succeeded in making a literary curiosity or freak without having a father in rhetoric or a mother in composition.

Part I of this book is devoted to the forms of discourse—"Narration," "Description," "Exposition," and "Argument," with a special chapter on "The Drama." The pith of this part of the book lies in the principle that the authors aim to impress the pupil with the idea that "his own compositions are, and must be, identical *in kind* with the methods by which distinguished writers have produced those effects which please or impress him in his reading."

Part II takes up the "Paragraph," the "Sentence," and the "Choice of Words"—the part which deals with the rhetorical technique. One feature in this part of the book is unique: the treatment of "Improprieties in Language." Unlike the old familiar parallel list of correct and incorrect use of a word or phrase, the authors define the standard of usage, and to quote from the book, "the four main principles of choice (correctness, precision, appropriateness, and expressiveness) are fully explained and illustrated; but the correction of specific improprieties is left to the teacher, who will, of course, note these faults when they occur in the student's writing or conversation, and thus adapt his instruction to the actual needs of the individual."

Another commendable feature of this unusually commendable book is the printing of important words or ideas in black-type letters.

Our brief review of this excellent book can give no adequate idea of its many valuable features. The authors have evidently learned from their experience in writing other books just what is needed, and they have produced a book that will stand the test of the teacher, the pupil, the supervisor, and the ubiquitous reviewer.

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*The Dido Episode in the Aeneid of Virgil.* By Norman Wentworth De Witt. Chicago, dissertation. Toronto: William Briggs, 1907. Pp. 78.

The literary appreciation of this dissertation constitutes its chief merit and claim to attention. The writer possesses a considerable competency in handling old problems and displays an agreeable skill in a graceful restatement of old discussions. The work, however, hardly marks an advance upon the critical study of the fourth book of Virgil's *Aeneid,* for which we are all so heavily indebted to Glover, Heinze, Sellar, Nettleship, Conington, Sainte-Beuve, Rohde, J. R. Green, and Julia Wedgwood.

The dissertation discusses such problems as the Rise of Erotic Poetry, the Poetics of Erotic Poetry, Aeneas as a Lover, the Tragic Character of Dido, and Virgil's Indebtedness to Apollonius Rhodius and Catullus. The conclusions that are advanced are in the main quite correct, although perhaps, in view

of the character of the material, there is room, within broad limits, for much freedom of thought and consequently for difference of opinion.

We are, for example, not convinced that Aeneas was *not* in love with Dido; the evidence for conviction (despite the skill shown in making out a case) is really no evidence at all for the point at issue. It was obviously not within the scope of the poet's purpose to make a full revelation of the character and degree of the *Roman* hero's passion. The question is rather one of degree than of fact, and the final answer must be sought outside the *Aeneid* altogether, in the subtleties of racial temperament and fluctuating social habits; possibly Catullus lxii. 3, 4 throws some light upon the question. Enthusiasm for the Roman poet carries the writer into an altogether too severe condemnation of Apollonius Rhodius; authoritative appraisers of literary values have lately given the Alexandrian poet deserved credit for brilliant penetration and a masterly technique. Recognition of literary *merits* that defied the fading genius of Greece, is far more likely to reach the golden mean of truth than the easier and more obvious criticism of *demerits*, subject to all too frequent assaults from the stronghold of prejudice. The verbal parallels that are quoted (chap. vii.) to establish the relationship of Virgil to Catullus represent a method of external criticism, often applied, but as often failing to demonstrate spiritual affinities. It is quite conceivable that *Aen.* iv. 612: nostras audite preces was *not* inspired by the colorless meas audite querellas, Catullus lxiv. 195; it is, however, quite within the realm of possibility that the more striking similarity of "Talia saecla" suis dixerunt "currite" fusis Concordes stabili fatorum numine Parcae (Virgil, *Ecl.* iv. 46, 47) to Currite ducentes subtegmina, currite, fusi (Catull. lxiv. 327) *does* suggest a *conscious* reflection.

It is, perhaps, ungracious and not within the zone of this brief review to dwell at length upon numerous details and generalizations that are not entirely true, and it is a pleasanter task to call attention to such excellent summaries as that upon p. 43, beginning "Virgil has succeeded in maintaining the high tension of interest required by tragedy." To penetrate the inner consciousness of an "age whose mind was on the strain and divided against itself" is no slight task, and perhaps this dissertation may prove a preliminary study to a fuller investigation of problems of perennial interest.

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*Laboratory and Field Manual.* By JOSEPH Y. BERGEN and BRADLEY M. DAVIS. Boston: Ginn & Co., 1907. Pp. 257. $0.90.

This manual designed by the authors to accompany their recent *Principles of Botany* is in many respects superior to any laboratory guide available to students of elementary botany. Better than any of its predecessors it combines the several departments of botany in a way that renders it capable of adjustment to the widely varying conditions in secondary schools. In general the book is to be commended for its range of exercises and its clearness.

The laboratory work begins with the study of the structures and functions of seed plants. The study of "types" follows and makes up the bulk of the exercises. Outlines for ecological studies form the third section. The remainder

of the volume is given over to the methods of preparation of microscopic slides, culture methods, and suggestions for equipping the laboratory and the departmental library.

In the study of plant morphology there can be no doubt as to the value of such outlines in the hands of the pupil. In the case of physiological experiments however, since in secondary schools they must be largely in the nature of class demonstration, it may well be questioned whether the outlines in this and other manuals do not detract from, rather than add to, the value of such work. In so far as they suggest the conclusions to be derived from the exercise, they render the student less dependent upon his own accurate observation of the details of the experiment.

The portion of the book most open to unfavorable criticism is that devoted to ecology. Especial attention is directed to this part in the preface, and it is offered as "at least an outline for the treatment of ecology as a scientific subject," since the authors believe "that it is quite possible to illustrate even to beginners something of the kind of quantitative discussion of variation in environment and the response of plants to changed (?) conditions, which must distinguish the ecology of the future." On turning to the treatment we find the subject introduced by "Parasitic and Carnivorous Plants" and "How Plants Protect Themselves from Animals." It may well be doubted whether these two chapters will form the introduction to the "ecology of the future." They smack much more of the unscientific past even than of the present. The chapter on "Pollination of Flowers" defeats its aim by explaining how the pupil may tell the variously pollinated flower types without recourse to the field. Further, the rules given are open to serious question. The remainder of the section is of better quality though there is certainly room here for improvement both in content and order of presentation.

E. N. TRANSEAU

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*Studies in Psychopathology.* By BORIS SIDIS. Boston: D. C. Heath & Co., 1907. Reprinted from the *Boston Medical and Surgical Journal.* Pp. 73.

This little pamphlet, consisting of papers reprinted from the *Boston Medical and Surgical Journal* is interesting to the teacher and student of child-life because of the impressive instances given of the persistent force of early impressions. Various persons suffering with symptoms of nervous and mental disturbance were examined by inducing a "hypnoidal" state. This state is not so deep as that of ordinary hypnotism, but enables the investigator to bring to light incidents not remembered in normal consciousness. In all the cases cited some thrilling or painful experience of child-life, which had quite passed from conscious remembrance, was revealed as being responsible for the pathological conditions. The significance for the teacher or parent is of course in the field of prevention. A horrible or frightful event, or association with some depraved or morbid character, may leave impressions which in later life may cause mental unbalance.

J. H. T.

*How to Speak in Public.* By GRENVILLE KLEISER. New York and London: Funk and Wagnalls Co., 1906. Pp. x+533. $1.25, net.

The title of this book suggests that at last the secret is out, and we are to know exactly how to make of ourselves effective public speakers. Even in the preface, however, the author gives us to understand that his book is mainly a compilation of exercises and selections.

We find no exaggeration in this statement, for three hundred and fourteen pages are devoted to "Selections for Practice," one hundred and twenty-seven to paragraphs and stanzas for practice, eleven to words, sentences, etc., for practice, while about eighty-one contain the author's definitions, suggestions, quotations, exercises, etc.

Part I of this book deals briefly with the physiology of speech, and gives a simple, practical method of developing abdominal breathing. The importance of correct enunciation is emphasized, and numerous words and exercises are given for practice. Purity, flexibility and compass, brilliancy, resonance, volume—attributes of voice—are briefly defined, and specific exercises are assigned for securing these factors of expression. Modulation and gesture are next analyzed, and so explained that the student may work directly toward their attainment.

In Part II is a brief presentation of the psychological aspect of speech. Pausing is first discussed, and co-ordinately with this topic is presented emphasis. But under this head the pause is declared to be a principal means of emphasis. Inflection, "picturing," concentration, spontaneity, conversation, simplicity, sincerity, aim and purpose, confidence, earnestness, the emotions, and Bible-reading are topics very briefly treated. Nevertheless, the student is given a clear idea of the author's meaning and direct suggestions are made for his improvement.

Part III is devoted to "Public Speaking." The physical, mental, and moral requirements for successful speaking are here discussed. Then follow chapters dealing with the preparation of the speech, the divisions of the speech, and the delivery of the speech.

Part IV contains sixty-eight selections for practice. These for the most part consist of extracts from orations, plays, and narratives, supplemented with metrical compositions. Among these we notice "Sparticus to the Gladiators," "Death of Little Jo," "The Star-Spangled Banner."

On p. 159 the author says "a man must be and not seem." It would not be too much to require him to "be" what he should be, and to "seem" to be that which he is.

In the discussion of "Concentration," "the practice of being interested is recommended as the best means of developing concentration." It would seem more rational to say that the practice of concentration is the best means of developing interest.

The minuteness of detail in some of the "suggestions" may be seen from the injunction, "If possible avoid using handkerchief." From "Examples of Gesture," we select a "one-hand supine-ascending" motion which the student is to make as he reads, "Away, oh, away, soars the fearless and free!" With "both hands supine-ascending" he reads, "Joy, joy forever, my task is done." In "Voice Culture," for purity, the student is enjoined, "With closed mouth hum a mental *maw*."

We read, on p. 188, "Committing to memory lines of prose and poetry

will do much to strengthen a weak memory." This should not excite too much hope in the student. William James, of Harvard, in his *Principles of Psychology*, Vol. I, p. 663, says: "No amount of culture would seem capable of modifying a man's general retentiveness."

One of the most helpful ideas is found in chap. viii. In speaking of the numerous shades of pausing, the author observes that they "must be determined by the thought, the occasion, and the speaker's intelligence."

The book is a suggestive and helpful volume, carefully planned with the idea of giving the learner a small amount of theory with a large amount of intelligent, directed practice. There are many cogent ideas succinctly stated. For example, "What the speaker sees in his imagination is likely to be shared by his auditors." "The speaker must test and criticize over and over again the work of his voice, gesture, and expression, until he is thoroughly satisfied as to its accuracy and dependableness." "The habitual use of language and manner of expression in daily conversation will greatly influence a speaker's style in public address." "Simplicity is characteristic of all great art." "Simplicity . . . . [means] . . . . sincere, direct and spontaneous effort." "In all successful oratory there must be a clearly defined aim and purpose."

The many valuable points brought to the student's attention are well worth the serious consideration of those for whom this book has been painstakingly prepared. The general suggestions on p. 214 are particularly useful.

WILLIAM P. GORSUCH

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*The Teaching of Mathematics.* By J. W. A. YOUNG. New York: Longmans, Green & Co., 1907. Pp. xviii+351.

In the preparation of this book the author has kept in mind the prospective as well as the experienced teacher of mathematics. He has omitted the historical aspect of the subject and the presentation of model lessons to pupils, confining himself to illustrative use only of subject-matter. He has further restricted himself in the main to conditions as they exist in the United States. The book is comprehensive and stimulating throughout, and is perhaps the most helpful book on the teaching of elementary mathematics that has been published in this country. It ought to be in the library of every teacher of mathematics and of every school superintendent.

In the introductory chapter on the "Study of the Pedagogy of Mathematics" the author states that no antecedent work in the fields of psychology, philosophy, or logic is presupposed in what follows; and, indeed, there is an absence of sharp, clear-cut, psychological discussion of methods of teaching, in places where the reader would profit by it.

The chapter on the "Value of the Study of Mathematics" discusses the subject under four headings: Its utilitarian values; as a fundamental type of thought; as a tool for the study of nature; as exemplifying especially well certain important modes of thought. The discussion is comprehensive and forcible. The teacher will do well to read the chapter occasionally, and to read portions of it to his classes.

Chapter iv presents a brief discussion of methods and modes, defining and stating the value of the analytic and synthetic, of the inductive and deductive, of the Socratic and of the heuristic, and laboratory methods; also of the different modes of presentation of the subject-matter to the pupils.

The following, which is given in italics as the test of the best mode, seems entirely inadequate: "If the mode used is such that the pupil makes no more progress than he would have without a teacher, this on the face of matters condemns that mode under those circumstances." This chapter furnishes the general basis for the more detailed study of the heuristic and laboratory methods, and the individual mode in the chapters following.

The treatment of the heuristic method and individual mode is clear and practical, defining them, stating their value, summing up their advantages and disadvantages, and giving the verdict of experience with regard to them. "It is the function of the teacher and of the text so to present the things to be done, so to propose the problems to be solved," etc. (p. 70). Does modern psychology approve of that statement? Is it not rather one function of the teacher so to handle his subject that the pupils themselves will propose as many as possible of the problems to be solved, and if they do, will they not attack them with greater avidity and success? The following, which is commended, is given as an example of the true heuristic method: "What sort of a figure is $ABCD$? What do you know about the diagonals of such a figure? What lines in the figure are therefore equal? How does this knowledge help us in our main problem?" A critical investigation of such a method would show that such a series of questions tended to cripple the mental powers of the class and was only justifiable when they failed to get results from a method of approach that gave them credit for some observation and insight.

A long chapter is devoted to "The Laboratory Method" which evidently has the approval of the author. Its keynote is interest, its dominating thought the method of nature which finds the clue to interest, not in the subject-matter, but in the child's instinct to do—to exert his powers. Emphasis is placed on the necessity of correlating the mathematical subjects among themselves and relating mathematics to actual experiments involving calculation. The importance of graphic representation is dwelt upon.

There are many important chapters, which through lack of space we must omit to notice. The chapters on the "Teaching of Arithmetic," "The Teaching of Algebra," and "The Teaching of Geometry" are sane, practical, and full of suggestion. Teacher's should read and re-read the quotation from Walker's *Discussions on Education*, as to the demand in actual life for rapid and accurate computation. And also, as given here, Still's *Report* to the N. E. A. in 1900, of what the business world believes it has a right to expect from the study of arithmetic in school.

In noting the different views held by thinkers regarding the real nature of the number concept the author states that they play no further part in the direct work of instruction. In this we think he is in error, and that there is a very close relation between the underlying theory and the method, if worked out consistently.

In his discussion of the teaching of geometry the author emphasizes his belief that geometry should be taught, "not as a collection of settled facts to be

learned . . . . but as a set of phenomena to be investigated scientifically." The chapter is written from this standpoint and is accordingly stimulating and suggestive. An ample bibliography precedes each chapter.

In conclusion, it may be stated that while this book still leaves room for a briefer work on the teaching of mathematics from the psychological standpoint, yet it is able, sane, practical, suggestive, and stimulating, and the teacher of mathematics cannot well afford to be without it.

A. F. AMES

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*Das Buch vom Kinde.* Ein Sammelwerk für die wichtigsten Fragen der Kindheit unter Mitarbeit hervorragender Fachleute herausgegeben von ADELE SCHREIBER. Leipzig and Berlin: B. G. Teubner, 1906. 2 vols. Pp. xxv+887.

This co-operative work on the "weightiest questions concerning childhood" is described by its editor as "a guide, a true leader into childland. It gives instructions for the care of the body and the soul of the child. It discusses all the weighty problems of home education, and offers abundant counsel concerning occupation and education from earliest childhood to maturity. Far-seeing specialists discuss in it the reform of the school system and of the legal protection of childhood. The profoundly important question of the choice of vocation for boys and for girls is most thoroughly treated."

It is intended not only as a help to those parents and teachers who in some bewilderment are seeking for knowledge in the voluminous literature of the subject, but also as a means of arousing to a sense of their responsibilities the "numberless others" who "still live thoughtlessly, without having understood the immense significance of the word education."

The book deals almost exclusively with present conditions and tendencies to reform in Germany. Its value to American readers lies in the information which it yields on these matters, in its exhibition of the number and complexity of the problems relating to the care of children, and in its suggestiveness as to variations and improvements in our own activities in this field. It gives, moreover, abundant evidence of the existing defects in German education, and of the great improvements which have occurred in Germany during the last fifteen years. Especially notable among these last are the greater attention to individual needs, and the better care of unfortunates.

The work consists of ninety-five articles, contributed by seventy-nine writers. It is unusual, if not unique, among books on childhood, in the variety and professional standing of its contributors, among whom are university professors, teachers in various regular and special schools, doctors of medicine, jurists, and other state officials. It is provided with nearly two hundred illustrations—half-tone reproductions of photographs, woodcuts, and prints in color—and the whole is given artistic form through beautifully clear large type, numerous unique decorative designs, and full-page drawings of child life.

The unusual character of the book perhaps justifies the necessarily dry analysis of its contents. The various subjects are classified under four main heads: I, "The Body and the Soul of the Child;" II, "Education;" III, "The

Child in Society and in Law;" IV, "Vocations and Vocational Training." Part I includes articles on the body of the child and its development; the feeding of infants and children; the general hygiene of childhood; diseases and care of the eyes, ears, nose, throat, and teeth; clothing; acute infectious diseases; diseases of the nervous system; first aid to the sick and the injured; the sexual problem; the child and crime; the ethical sensibilities of childhood; character and defects of character.

Part II (Education) occupies more than half of the entire work. It contains three subdivisions: the first of these treats of education in the home, and general education. Here are placed discussions of the artistic nursery, the development and the obstructions of speech, play and occupations, various phases of handwork, the picture-book, reading for children, drawing with pencil and with color, modeling, music, dancing, gymnastics, games, the training of character; religious, ethical, and social education. The second subdivision includes articles on the kindergarten; elementary, continuation, and higher schools for boys and for girls; school hygiene; the newest methods of teaching; coeducation; the relations of home and school. Here, too, one finds interesting evidence of educational progress in Germany in the discussions on the education of orphans, day homes for children whose parents are absent at work, asylums for foundlings and illegitimate children, vacation colonies in the country, vacation walks, homes and playgrounds for feeble and exhausted children, open-air schools, institutions for wayward children, and public kitchens for the supply of pure milk and other food. The third subdivision deals with the education of abnormal children—the dumb, the blind, the backward and feeble-minded, and the crippled.

Part III is devoted to social and legal questions. Following a long and interesting presentation of statistics concerning German children are briefer discussions of criminal and private law, the legal rights of illegitimates, state guardianship, child labor, and the prevention of cruelty to children.

Finally, Part IV deals with the important questions of vocation and vocational training. The first article surveys in an interesting and systematic way the field open to boys who have completed only their elementary schooling; the second, the opportunities for graduates of higher schools; the third and fourth, occupations open to girls and women. The work closes with a brief discussion of university study for women.

The comprehensiveness of the book is evident enough from the foregoing incomplete list of topics; in encyclopedic range it is, in fact, unmatched by any other book on childhood. But, as the title indicates, it is in character a compilation rather than an encyclopedia. Moreover, it has the defects of a compilation made without detailed editorial policy as to the nature of the subject-matter; each contributor has dealt with his subject as seemed good in his own eyes. The reader can therefore have no certainty as to the trend of any particular discussion; he may find a careful summary of facts, a historical sketch, a more or less wordy description of existing conditions, medical or other advice, a project for reform, a criticism, or more than one of these. In short, one who would be spared some sharp disappointments must be prepared for the unexpected. Thus, the article on children's savings is merely a caustic denunciation of school savings banks; it gives no information as to the condition or actual

workings of the scheme. In the main, however, the tone is that of the practical worker or the practical reformer unencumbered by complicated theory. In this respect it is in refreshing contrast to a great mass of our pedagogical literature.

The book is designedly popular in character; the articles are elementary and introductory. The specialist will turn to it in vain for aid within his own field, though he will certainly gain interesting glimpses of the manifold activities and opinions relating to German childhood outside his field. And, in spite of the prefatorial promises above cited, its value as a guide in any particular direction is limited by the necessary brevity of the articles. It will not, for example, take the place of special books for the mother, who needs not only general knowledge concerning the food, clothing, hygiene, and diseases of her children, but also specific aid for a thousand emergencies. Neither will it be sufficient for the teacher who requires detailed information on any aspect of his work. For these, as for others, its main value lies in its suggestiveness and in its general view of the whole field. *Die mühsam suchenden* will find suggestions for further study in the brief bibliographies—exclusively of German books—appended to many of the chapters. As for *die zahllose anderen . . . . die noch gedankenlos dahin leben*, perusal of this work should arouse them once for all to a lively, if not crushing, sense of their responsibilities. Fortunately for ourselves and for the future of the race, no one has to face all of the problems here discussed all of the time.

Readers unfamiliar with German will gain much from the illustrations. They depict admirably many interesting aspects of German school life and school work.

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## BOOKS RECEIVED

### EDUCATION

*Linguistic Development and Education.* By M. V. O'SHEA. New York: The Macmillan Co., 1907. Pp. 347. $1.25.

*The Child's Mind: Its Growth and Training.* By W. E. URWICK. London: EDWARD ARNOLD; New York: Longmans, Green & Co., 1907.

*The Teachings of Thomas Henry Huxley.* By IRVING WILSON VOORHEES. New York: Broadway Publishing Co., 1907. Pp. 85.

*Suggestion in Education.* By M. W. KEATINGE. London: Adam and Charles Black; New York: The Macmillan Company, 1907. Pp. 200. $1.75.

*Moral Training in the Public Schools.* (California Prize Essays.) By CHARLES EDWARD RUGH, T. P. STEVENSON, EDWIN DILLER STARBUCK, FRANK CRAMER, GEORGE E. MYERS. Boston: Ginn & Co., 1907. Pp. 203.

*The Industrial Improvement Schools of Württemberg.* By ALBERT A. SNOWDEN. New York: *Teachers College Record,* Columbia University Press, November, 1907.

### ENGLISH

*A Hundred Great Poems.* Selected and annotated by RICHARD JAMES CROSS. New York: Henry Holt & Co., 1907. Pp. 230. Gilt edges, flexible cover.

*Lamb's Tales from Shakespeare.* (Macmillan's Pocket Classics.) Edited, with an introduction, by ALFRED AINGER. New York and London: The Macmillan Co., 1907. Pp. 368. $0.25.

*Sheridan's Plays: The Rivals and the School for Scandal.* (Macmillan's Pocket Classics.) Edited, with introduction and notes, by WILL DAVID HOWE. New York and London: The Macmillan Co., 1907. Pp. 319. $0.25.

## LATIN

*A New Method for Caesar.* (The Students' Series of Latin Classics.) By FRANKLIN HAZEN POTTER. Boston: Benj. H. Sanborn & Co., 1907. Pp. 140. With maps and illustrations.

*Six Weeks' Preparation for Reading Caesar.* (Adapted to Allen and Greenough's, Bennett's, and Harkness's grammars.) By JAMES MORRIS WHITON. Fifth revised edition, with additions, by HELEN ISABEL WHITON. Boston: Ginn & Co., 1907. Pp. 105.

## FRENCH

*French Short Stories.* Edited, with notes and vocabulary, by DOUGLAS LABAREE BUFFUM. New York: Henry Holt & Co., 1907. Pp. 491. $0.90.

Renan's *Ma soeur Henriette.* Edited, with introduction, notes, and vocabulary, by WILLIAM F. GIESE. New York: Henry Holt & Co., 1907. Pp. 92. $0.35.

## GERMAN

Hoffmann's *Meister Martin der Küfner und seine Gesellen.* Edited, with introduction and notes, by ROBERT HERNDON FIFE, JR. New York: Henry Holt & Co., 1907. Pp. 132. $0.35.

## HISTORY

*Bury's Students' History of Greece.* Edited and prepared for American high schools and academies, by EVERETT KIMBALL. New York: The Macmillan Co., 1907. Pp. 375. With maps and illustrations. $1.10.

*Atlas of European History.* By EARLE W. DOW. New York: Henry Holt & Co., 1907. Pp. 80. $1.50.

## SCIENCE AND MATHEMATICS

*American Birds Studied and Photographed from Life.* By WILLIAM LOVELL FINLEY. New York: Charles Scribner's Sons, 1907. Pp. 256. Illustrated. $1.50.

*First Course in Algebra.* (With eight thousand examples, including three thousand mental exercises.) By ALBERT HARRY WHEELER. Boston: Little, Brown & Co. Pp. 664. $1.15.

## MISCELLANEOUS

*The Bible as Good Reading.* By ALBERT J. BEVERIDGE. Philadelphia: Henry Altemus Co., 1907. Pp. 94.

*The Natural History of the Ten Commandments.* By ERNEST THOMPSON SETON. New York: Charles Scribner's Sons, 1907. Pp. 78. $0.50.